A Nonlinear Mathematical Model of Respiratory Sinus Arrythmia

by

Usha B. Tedrow

Submitted to the Department of Electrical Engineering and Computer Science

in Partial Fulfillment of the Requirements for the Degree of

Bachelor of Science in Electrical Science and Engineering

at the Massachusetts Institute of Technology

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Abstract

In this project, physiological data (electrocardiogram, blood pressure, and respiration) were obtained from human subjects as they underwent certain interventions, including metronomic breathing and postural tilt, that challenge the autonomic nervous system. These data were then fit to a nonlinear mathematical model that simulates the effect of respiration on heart rate using **1)** an analog circuit model to extract features from the physiological signals, and **2)** a forecasting algorithm to predict the effect of autonomic stimulation on the cardiovascular system. The model's parameters were then analyzed to determine how they change during the various interventions. We found that the parameters of the analog circuit model changed with both metronomic breathing and with tilt, directly reflecting physiologic changes due to autonomic stimulation. However, most of the parameters of the forecasting algorithm did not change as a function of the interventions. Together, these results indicate that a resting subject's data may be fitted to the model, that changes in autonomic stimulation may be simulated by changing the relationship of the circuit parameter values, and that forecasts may be performed by changing only a few of the coefficients from their original values.

Thesis Supervisor: David R. Rigney
Title: Assistant Professor

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Chapter 1

Introduction

The purpose of this project is to acquire data involving the voluntary respiration of several human subjects, to fit these data to a nonlinear mathematical model that simulates the effect of respiration on heart rate, and to discover how the model's parameters change during different interventions, including metronomic breathing and postural tilt, which stimulate the autonomic nervous system in different ways.

1.1 Motivation

When modeling a system, the traditional approach is based on using linear transfer functions to define a postulated cause and effect relationship between inputs and outputs. However, in the case of a physiological control system, this type of description may not necessarily be accurate, especially if the system is adaptive or nonlinear.

> "If this [physiological] system were really machinelike, one would expect to have found that its provoked responses (e.g., the effect of respiration on heart rate) are perfectly reproducible, so that we could in principle forecast its state far into the future. This presumes that the system behaves in a purely automatic fashion, but if the control mechanism is anticipatory rather than reactive—as might conceivably exist for a system that never settles down to a constant state—then might the observed variability of responsiveness be due to conditioning by previous responses,

so that the best prediction of the system's behavior would be based on a forecast of system's forecast of its own future state?"[7]

The model devised by Dr. David Rigney, Ph.D. and others in the Bioengineering Laboratory at Beth Israel Hospital in Boston is used in this project to provide a mathematical representation of the effect of respiration on heart rate. This model was designed with the purpose of implementing the general idea expressed above, that a model with the ability to forcast the future state of a system is most useful for analyzing the dynamics of physiological systems.

Ultimately, such a model has the potential to accurately describe and forecast the condition of patients who suffer from cardiovascular disease as well as the normal state of healthy patients. Only electrocardiogram, blood pressure and respiration, three of the standard physiologic data channels routinely taken in Intensive Care Units, are required to use the model. With the advent of both tonometric and optical non-invasive blood pressure monitors to replace the arterial indwelling catheters used in Intensive Care, these three signals can easily be obtained with minimal discomfort to the patient. One hopes that in the future, a cardiovascular model similar to the one being elaborated by Dr Rigney et al. may be used as a relatively simple tool for diagnosing diseases and for anticipating life-threatening arrhythmias such as sudden cardiac death.

1.2 Physiology

The cardiac cycle can be divided into two major time periods, diastole and systole. Diastole is when the heart is filling with blood from the veins and the valve between the heart and the aorta is closed. During systole, the aortic valve opens and the heart contracts, ejecting blood into the arterial system. The Frank-Starling Law of the Heart states that the greater the diastolic filling volume, the greater the peak systolic pressure. In other words, the greater the amount of blood that fills the heart, the larger the maximum force per unit area exerted by the heart during systole. Furthermore, there is a predictable relationship between the duration of systolic ejection,

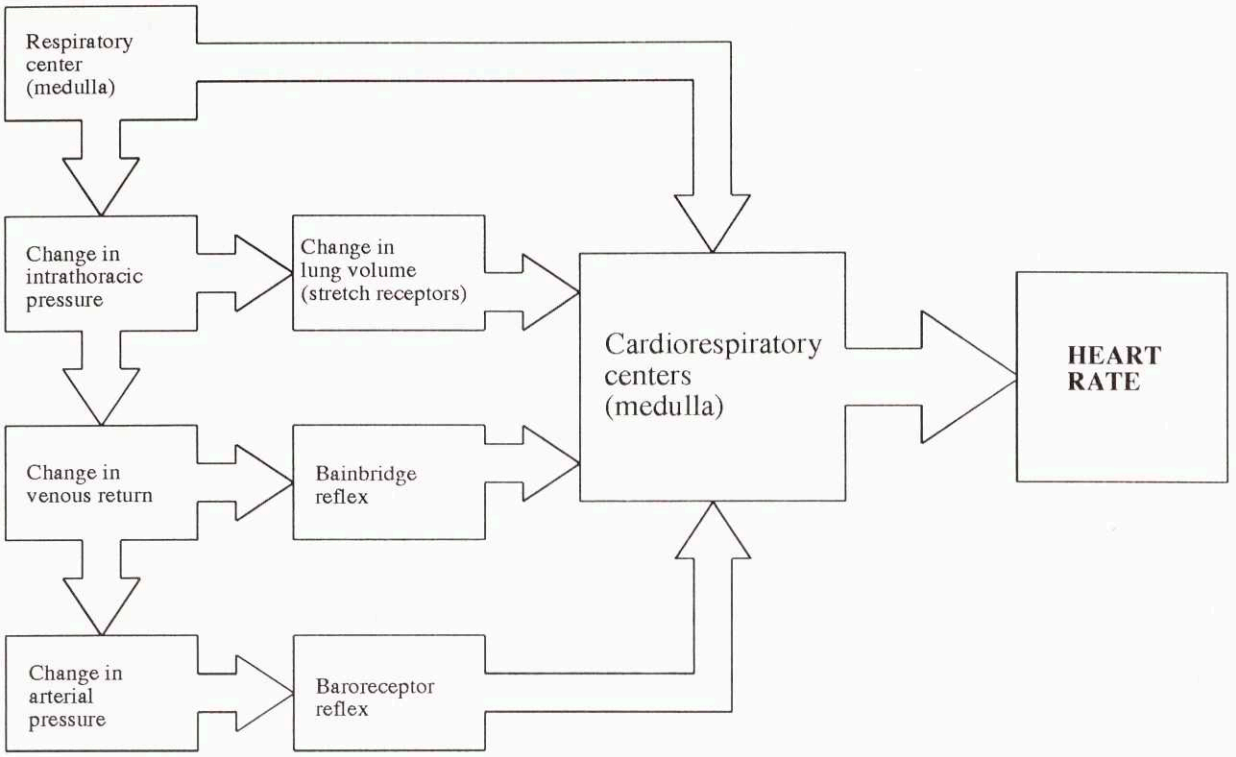

Figure 1-1: Respiratory sinus arrhythmia is generated by a direct interaction between the respiratory and cardiac centers in the medulla, reflexes originating from stretch receptors in the lungs, stretch receptors in the right atrium (Bainbridge reflex), and baroreceptors in the carotid sinus and aortic arch.

the stiffness of the blood vessels, and the resulting systemic blood pressure. The first part of the model of the cardiovascular system proposed by David Rigney et al. seeks to represent these changes in pressure, flow and compliance using a lumped parameter circuit analog. The second part utilizes the history of the system for the past ten heart beats to make predictions about the time course of the parameters and variables in the first part of the model.

1.2.1 Respiratory Sinus Arrhythmia

A true test of this model is whether or not it can describe the complex interaction between heart rate, respiration, and blood pressure as mediated in the body by stretch receptors in the lungs and baroreceptors in the carotid sinus and aortic arch.[1] As depicted in figure 1-1, voluntary respiration, which is regulated in the medulla of the

brain, results in a mechanical change in intrathoracic pressure due to the change in position of the diaphragm during breathing. The pressure decreases during inspiration and increases during expiration. The change in intrathoracic pressure then causes a volume change in the lungs as the diaphragm moves like a piston, forcing the lungs to expand and contract. At the same time, the amount of blood returning to the heart decreases with increasing intrathoracic pressure. Altering the venous return, in turn, has a direct effect on the arterial pressure.

These changes in venous return, arterial pressure and lung volume are sensed by stretch receptors located in the right atrium, aortic arch, and lungs, respectively. All of this information plus the original respiratory driving function is supplied to the cardiorespiratory center, which regulates heart rate. Such a complex regulatory system is unlikely to have a simple, linear dependence on the respiratory driving function.

1.2.2 Postural Tilt: Meyer Waves and the Baroreflex

When a person moves from a supine position to a standing position, the arteries in the lower body constrict in order to prevent blood from pooling in the legs. This vasoconstriction serves to maintain an adequate distribution of of blood throughout the body, thereby maintaining an adequate oxygen supply to the brain. The baroreflex, which is initiated by receptors located in the carotid sinus and aortic arch as mentioned in section 1.2.1, is the main reflex loop responsible for this postural blood pressure regulation.

It has been observed [6] that when a subject is in a standing position, the heart rate and blood pressure times series sometimes exhibit low frequency oscillations called Meyer waves due to the feedback loop of the baroreflex. These oscillations occur at approximately 0.1 Hz. Metronomic breathing frequencies were selected at two breathing rates, one at 0.1 Hz to interact with the Meyer waves of the baroreflex, and another at 0.2 Hz to examine the independent effect of controlled respiration on heart rate and blood pressure.

The reason for using a tilt test, in which the subject is monitored while being

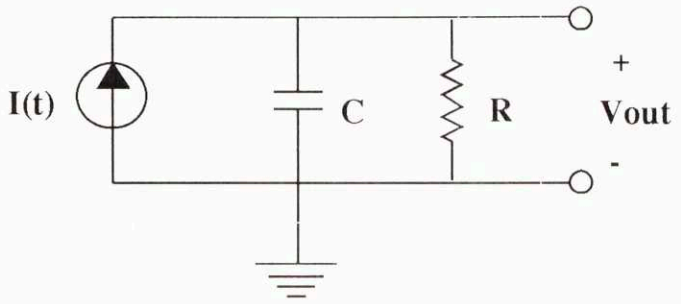

Figure 1-2: The original Windkessel model used an impulse function for $I(t)$, and only one capacitor, which represented arterial compliance. There was also a resistor, R, representing the resistance of smaller vessels.

moved from a supine to a standing position, is twofold. One purpose is to investigate the effect of metronomic breathing at different frequencies on the Meyer wave oscillations. The other objective is to determine the extent to which the parameters of the model used in this project change during the interventions.

1.3 The Analog Model

The original lumped parameter model for the cardiovascular system was proposed in 1769 by Reverend Stephen Hales in Germany.[6] It was called the Windkessel model, named after the air-filled chamber in fire engines of the period. Because a piston could change the volume of the air-filled chamber, a pulsatile flow at the input was converted to a steady stream of water at the fire hose nozzle. This mechanism is analogous to that of the individual beats of the heart resulting in a quasi-steady flow of blood through distal arteries.

Stated in terms of lumped circuit elements, the model, depicted in figure 1-2, consisted of a single capacitance to represent the elastic compliance of arterial system. There was also a resistor, R, inversely proportional to the fourth power of the blood vessel diameter, which primarily represented the resistance of smaller blood vessels

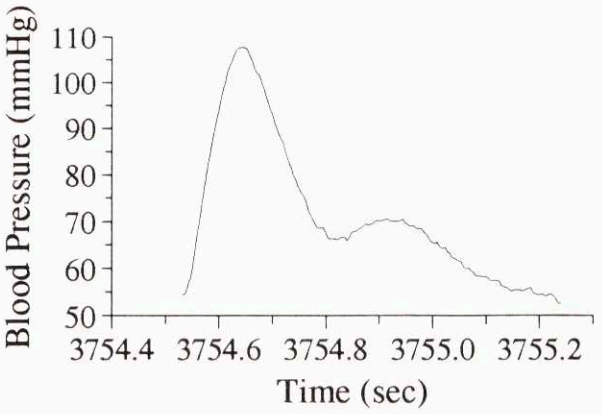

Figure 1-3: This example of a typical human blood pressure waveform shows oscillations not explained by a model consisting of the impulse response of a single capacitor and resistor in series with a current source.

such as arterioles and capillaries[4]. The driving function, $I(t)$, consisted of a train of impulses, the time integral of which equals the stroke volume for each beat. The impulse response of the circuit shown in figure 1-2 is a simple step followed by an exponential decay.

The waveform of a typical human blood pressure beat is actually like the one shown in figure 1-3. Looking at the waveform, it is evident that there are oscillations that would not be described by a simple exponential decay. The model described by David Rigney et al., (figure 1-4) is a third order system that consists of a resistance, similar to that used in the first Windkessel model, two compliances, representing the elastic and muscular components of the arterial system, respectively, an inductance representing the inertance of the blood, and a voltage offset corresponding to baseline blood pressure due to blood volume[8]. In addition, the driving function is no longer an impulse train. The function for the current, $I(t)$, (equation 1.1) has been modified

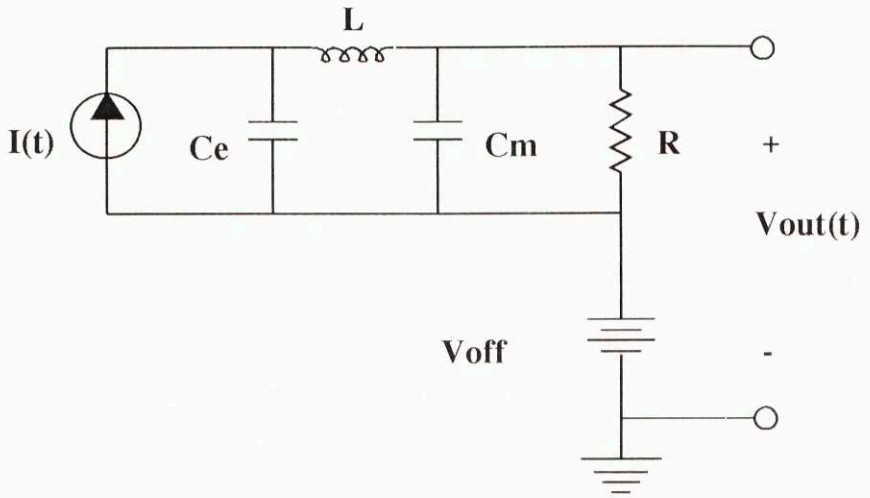

Figure 1-4: The model used in this study uses a finite duration ramp as an input function $I(t)$, a resistance, R, capacitance elements representing both muscular and elastic components of arterial compliance (C_e and C_m), an inductance L which corresponds to blood inertance, and a voltage offset V_{off} representing baseline blood pressure due to blood volume.

to better approximate the actual flow of blood that is ejected during a heartbeat.

$$I_h(t) = \begin{cases} 0 & \text{if } t < 0 \\ I_s(1 - t/T_s) & \text{if } 0 \leq t \leq T_s \\ 0 & \text{if } t > T_s \end{cases} \tag{1.1}$$

Above, I_s is the peak blood flow, and T_s is the duration of systolic ejection, the amount of time blood is flowing out of the heart and into the aorta[5].

When obtaining a fit for a blood pressure waveform, it is not possible to solve for each of the circuit elements independantly. Instead David Rigney et al. have proposed that six parameters, P_1 through P_6, be defined as shown below. A set of values for these parameters defines a specific solution to the analog circuit model shown in figure 1-4.

- $P_1 = A_n \equiv 1/RC_m$,
- $P_2 = B_n \equiv 1/LC_e$, and
- $P_3 = 1/LC_m$, physiological rate values (1/sec);

- $P_4 = I_s T_s / C_e$, pressure value proportional to stroke volume (mmHg);
- $P_5 = V_{off}$, the baseline blood pressure (mmHg);
- $P_6 = T_s$, the duration of systolic ejection (msec).

In this project, this model not only serves to extract features from the blood pressure waveform, but it is also used to predict diastolic pressure and its first two derivatives, given the duration of the previous heart beat. The equations describing the analog circuit model are as follows.

$$dV_{C_e}/dt = (I_h(t) - I_L)/C_e \tag{1.2}$$

$$dI_L/dt = (V_{C_e} - V_{C_m})/L \tag{1.3}$$

$$dV_{C_m}/dt = I_L/C_m - V_{C_m}/(RC_m) \tag{1.4}$$

The changing pressure across the elastic compliance is represented by $V_{C_e}(t)$, and similarly pressure across the muscular compliance is denoted by $V_{C_m}(t)$. The quantities I_h and I_L are the flow due to the contraction of the heart as defined in equation 1.1, and the flow through the inductor, L, respectively. By taking the derivative of both sides of equation 1.4 and substituting equations 1.2 and 1.3 into the result, a third order differential equation in terms of V_{C_m} is obtained. Thus, the voltage across $V_{C_m}(t) + V_{off}(t)$ is equal to the peripheral blood pressure at time t. After a fit for beat $n-1$ is obtained, the diastolic blood pressure for beat n can be determined by evaluating $V_{C_m}(t) + V_{off}(t)$ at a time equal to the inter-beat interval of the fitted beat, I_{n-1}[5].

1.4 Model for Forecasting

The second part of the model is intended to forecast properties of beat n based on the fitted parameters of previous beats (beat $n-1$, $n-2$, etc.). The algorithm for

predicting future beats is based on the physiology described in section 1.2.1. The forecasting model contains the five variables described below.

- D_n, the diastolic pressure immediately before the onset of the systolic pressure pulse of heart beat n, plus its first two derivatives;
- P_n, the pulse pressure, from which systolic blood pressure can be obtained using the equation: $P_n = S_n - D_n$;
- I_n, the beat interval, or duration of beat n, starting with the onset of systole;
- A_n and B_n, the two peripheral vasculature rates defined by the lumped parameter model in figure 1-4. $A_n \equiv 1/LC_e$ and $B_n \equiv 1/LC_e$[8].

At the start of the algorithm for fitting parameters, I_{n-1} and D_n are assumed to be known. The remaining parameters are determined using regressions of equations whose coefficients are each a function of respiratory phase, $\phi(t)$. This nonlinearity with respect to respiration is described by a piecewise linear approximation of the respiratory waveform, obtained by performing separate regressions for each of several selected ranges of respiratory phase.

The equation used to calculate pulse pressure, P_n is shown below,

$$P_n = a_0 + a_1 I_{n-1} + a_2 D_n + a_3 \phi_n \tag{1.5}$$

where a_0, a_1, a_2, and a_3 are the nonlinear functions of ϕ_n mentioned above.

The systolic blood pressure is then calculated from the pulse pressure, since $S_n = D_n + P_n$. Using this value and the previous ten systolic blood pressure values, an average systolic pressure, S'_n is calculated. This quantity represents the pressure sensed by the afferent pressure receptors of the baroreflex as discussed in section 1.2.1. These receptors have a linear range and saturate at high pressures, so an arctangent function is used to simulate S'_n as shown below. The quantity $\overline{S}$ is the average systolic blood pressure over the entire data set.

$$S'_n = \arctan((S_n - \overline{S})/18) \tag{1.6}$$

Together with respiratory phase, the information from the pressure receptors is then processed by the autonomic nervous system to control the beat interval for the next beat, I_n. The action of the autonomic nervous system is not well understood because of its complexity, so I_n is forecasted using a Taylor series expansion which includes a weighted sum of the last ten values of systolic pressure. This Taylor series is truncated after the quadratic terms as shown in equation 1.7 below.

$$I_n = b_0 + b_1\phi_n + b_2\sum_{i=0}^{9} u_i S'_{n-i} + b_3\sum_{i=0}^{9}(v_i S'_{n-i})^2 \tag{1.7}$$

Similar equations are used for A_n and B_n which reflect the collective effect of the autonomic nervous system on vascular compliance and stiffness.

$$1/A_n = c_0 + c_1\phi_n + c_2\sum_{i=0}^{9} w_i S'_{n-i} + c_3\sum_{i=0}^{9}(x_i S'_{n-i})^2 \tag{1.8}$$

$$1/B_n = d_0 + d_1\phi_n + d_2\sum_{i=0}^{9} y_i S'_{n-i} + d_3\sum_{i=0}^{9}(z_i S'_{n-i})^2 \tag{1.9}$$

The quantities u_i, v_i, w_i, x_i, y_i, and z_i are the weighting functions for the past ten values of systolic blood pressure, and are calculated using the entire record as mentioned above. The coefficients, b_0, b_1, b_2, b_3, c_0, c_1, c_2, c_3, d_0, d_1, d_2, and d_3 are all functions of respiratory phase.

Having calculated the parameter values for the beat n from beat $n-1$, one can iterate the process indefinately to make forecasts, provided one knows the respiratory driving function. In this project, two types of forecasts are used. One is an "in sample" prediction that is made on the same data that were used to estimate the parameters. The other, an "out of sample" prediction, is made on data that were not used for the original parameter estimation.

This model has been exercised, using metronomic breathing as input[8], to perform simulations thousands of beats long. Interestingly, when the model is simulated without noise, it is possible to detect chaos in the simulated time series. But when noise is added to the model, chaos is more difficult to discern. This added noise comes from randomly sampling the residuals of the parameter regressions from the original

fitted beats.

Chapter 2

Methods

2.1 Selection of Subjects

The subjects for the metronomic breathing study consist of three young and three elderly men and women. The young subjects are all under the age of thirty-five and were recruited from the staff of both the Hebrew Rehabilitation Center for Aged and Beth Israel Hospital. The elderly individuals are all over sixty-five, and are either residents of the Hebrew Rehabilitation Center for Aged or volunteers at the Harvard Cooperative Program on Aging. Table 2.1 shows the names given to the subjects, followed by their age, sex, and a brief description of anything distinctive about each record. Each subject was required to fill out the standard questionaire of the Harvard Cooperative Program on Aging. The areas addressed in this questionaire include levels of activity and exercise, medical procedures undergone, medications, allergies, smoking, and alcohol consumption. To be eligible for the study, the subject was

Record	**Age**	**Sex**	Description
mo2	70	Male	Some ventricular ectopy
mo3	70	Male	Clean Tracing
mo4	70	Male	No blood pressures during tilt
my2	20	Male	No tilt information
my3	20	Female	Clean Tracing
my5	20	Female	Clean Tracing

Table 2.1: Subject Information

required to be reasonably active (not necessarily an athlete, but not inactive either), without cardiovascular ailments, a nonsmoker, and, at most, a moderate consumer of alcohol. No subject was permitted to consume alcohol or caffeine for at least twenty-four hours before the study, and the subject's last meal was required to be at least two hours before the study.

Each subject was also asked to fill out the Beth Israel Hospital Informed Consent Form for Volunteers in Clinical Studies. This form is specific to studies involving tilt tables, and describes in detail some of the risks that accompany their use, such as dizziness and fainting. The consent form also provides details concerning the protocol of the experiment. The subjects were aided in their comprehension of the procedures and risks by Dr. Carolyn Connelly, Ph.D., of the Hebrew Rehabilitation Center for Aged. The subject then signed and dated the form if all of the conditions and risks were found to be acceptable. Copies of the consent form and volunteer questionnaire are provided in appendix A.

2.2 Data Acquisition

Measurements of respiration, blood pressure, and electrocardiogram were made continuously from human subjects. These data were simultaneously recorded on VHS VCR tape, using a Vetter Instrumentation 3000 PCM Recorder (A.R. Vetter Co. Rebersberg, PA), which uses 100 kHz digital pulse modulation to store the data, thereby eliminating the possibility of artifacts due to undersampling.

2.2.1 Measurement of Respiration

Respiratory data were acquired by impedence plethysmography using the RespiTrace System (RespiTrace Co., Ardsley, NY), which consists of two Respiband transducers, an oscillator, and a calibrator unit. Because the calibrator has only a digital display of the voltage output, an oscilloscope was also used to visualize the respiratory waveform.

The two Respiband transducers are pieces of elastic cloth, four to six inches wide, with a single coil of wire woven into the fabric. The bands are placed around the chest

and abdomen of the subject. When the subject breathes in and out, the bands stretch and relax, changing the cross-sectional area of the coil. The oscillator senses the change in the inductance of the coil with changing cross-sectional area, and converts that change into a voltage output that is proportional to the cross-sectional area of the band. The calibrator unit then allows the investigator to adjust the gain of the output from each Respiband so that a fixed volume displacing the band around the chest or abdomen results in a constant voltage output[3].

Calibration was achieved by having the subject perform the following isovolume maneuver. The subject would inhale a fixed volume of 800 ml from a Spirobag, a porous cardboard tube surrounded by an 800 ml plastic bag, and was then instructed to keep all the air in the upper part of the chest. Voltage levels from the oscillator were then noted and the subject again inspired from the Spirobag, this time keeping all the air in the lower part of the lungs, displacing the abdomen Respiband. The gain of each signal was then adjusted so that the 800 ml displacement resulted in the same voltage output from both chest and abdomen leads. When signals from the two transducers are added, the resulting output is proportional to the subject's tidal volume. Phase of respiration was later determined using this tidal volume signal[3].

2.2.2 Monitoring Blood Pressure and Electrocardiogram

The COLIN noninvasive tonometer was used to obtain blood pressure data. The tonometer works by sensing the distension of the subject's radial artery as blood flows through it. The radial artery is braced between the bone beneath the artery and the tonometer's array of sensors on the surface of the skin, and the force of the artery on the sensors results in the observed blood pressure waveform. This waveform then needs to be calibrated in units of mmHg, the conventional unit for blood pressure. Calibration is accomplished using an oscillometric blood pressure cuff measurement from the brachial artery. The cuff measurement gives values for systolic and diastolic blood pressures, and the waveform from the wrist sensors is automatically adjusted so as to match their values. The COLIN device also has a channel for recording and visualizing a standard Lead I electrocardiogram signal[2].

2.3 Protocol

The subject was asked to lie supine on a tilt table, a bed that can automatically move from a horizontal position to an upright position, 60 degrees from vertical. During the ten minute warm-up time for the COLIN device, the RespiTrace System was set up and calibrated. The subject was then asked to breathe normally and lie quietly for six minutes without talking. Then the bed was tilted to the upright position, with the patient still breathing freely. After another six minutes, the bed was returned to the supine position and the subject was allowed to rest for ten minutes. The subject was then instructed to breathe at a frequency of six breaths per minute by an audio cassette tape that had been recorded by the investgator. To ensure regularity of breathing, the voice on the tape counted out the seconds for inspiration and the seconds for expiration. After six minutes of metronomic breathing the subject rested for three minutes. Still in a supine position, the patient was instructed by the tape recording to breathe at twelve breaths per minute for another six minutes, with a three minute rest period following. Then the subject was tilted into the standing position a second time, and each of the six minute metronomic breathing sections was repeated. Lastly, the bed was returned to the horizontal position, and the patient was disconnected from the devices. A timeline for the entire procedure is shown in figure 2-1. [1]

2.4 Computer Data Analysis

Data from the instrumentation tape were subsequently played back through an analog to digital converter and archived on SONY 8mm computer tape. These data were then analyzed on a SPARC workstation using a biomedical signal processing program called Wave, written by George Moody. Wave allows the user to visualize and manipulate physiological data (figure 2-2). Using Aristotle, one of Wave's features, the

[1] Subject my2 was part of a separate pilot study and therefore participated in a slightly different protocol which consisted of breathing at four, six, eight and twelve breaths per minute, each for six minutes, all in a supine position. As in the protocol described above, the subject was allowed three

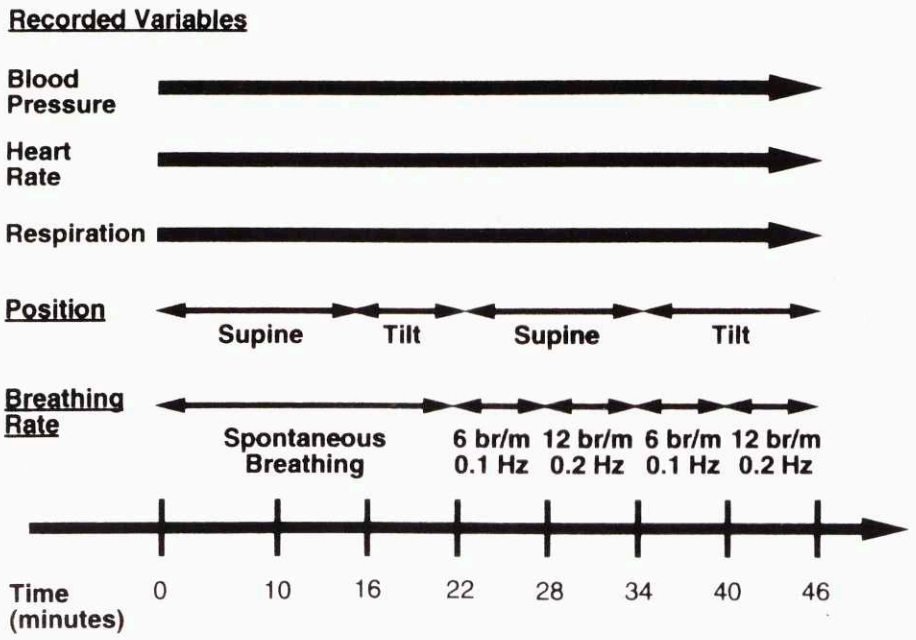

Figure 2-1: Shown is a timetable for the protocol of the metronomic breathing study.

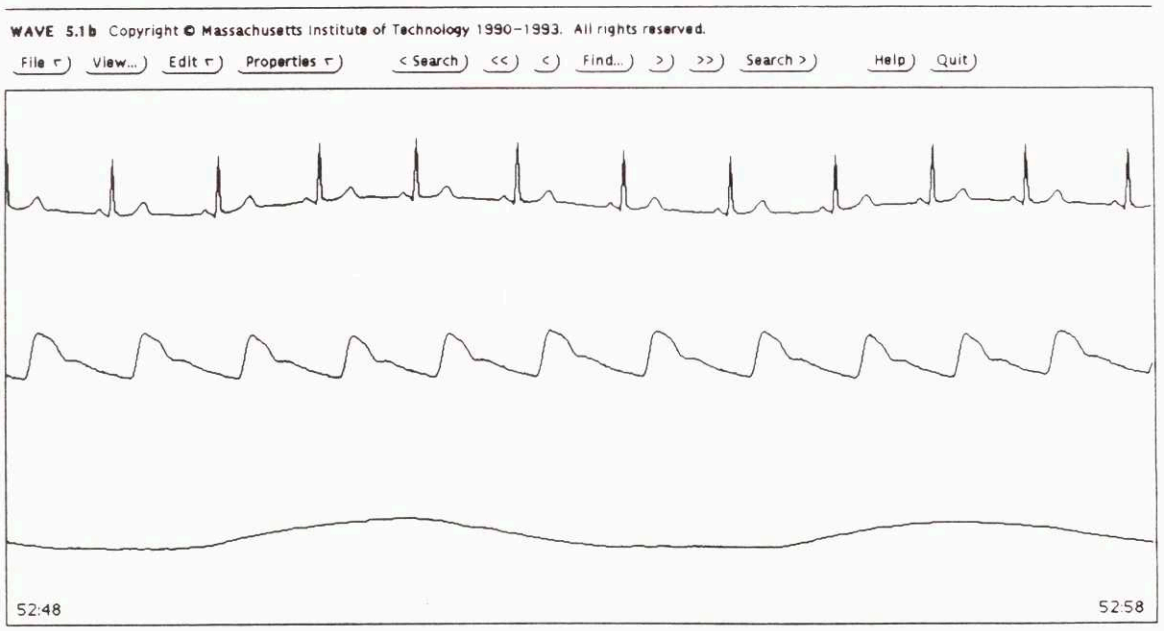

Figure 2-2: Depicted is a sample data segment showing Lead I ECG, Blood Pressure and Respiration as displayed by the biomedical signal analysis program Wave

electrocardiogram signal was annotated, beat by beat, to label normal and abnormal beats. The results of the automatic labeling were then confirmed visually by the investigator, and sections of data containing abnormal heart beats were excluded. As the subjects were preselected to be in good cardiovascular health, no segment of data longer than five seconds needed to be eliminated.

2.4.1 Fitting Blood Pressure Beats to the Model

The blood pressure beats were fit to the model described in Chapter 1 using *bpshape_wk4*, a program written by Wendell Ocasio. The first stage of the preprocessing is *bp*, a subrountine that first uses the ECG annotations obtained from Wave to locate a beat, and that then determines the pressures and times for diastole and systole for that beat.

The main program, *bpshape_wk4*, then first uses diastole, the pressure at the start of a beat, to obtain values for the first and second derivatives of the pressure at the beginning of the beat. As shown in figure 2-3 the beat is then displayed. The starting point is indicated so that the user can modify it if necessary. The program then randomizes the initial conditions for the parameters of the model depicted in figure 1-4 and searches on the 6-dimensional surface defined by the parameters for the local minimum that corresponds to the optimal chi-square value for the fit. The user may specify the number of times to iterate, randomize and find a new solution, in hopes of finding the best initial conditions that result in the best fit. In practice, once the first beat in a given record is fit, the subsequent beats tend to be of similar morphology, so multiple iterations are not necessary once the initial beat has been fit to the user's satisfaction.[5]

2.4.2 Statistical Analysis

The output of bpshape is an ASCII list, with one row for each beat. Only the columns corresponding to beat number, time, chi square, pulse pressure, respiratory phase, and

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minutes of rest between each metronomic breathing section.

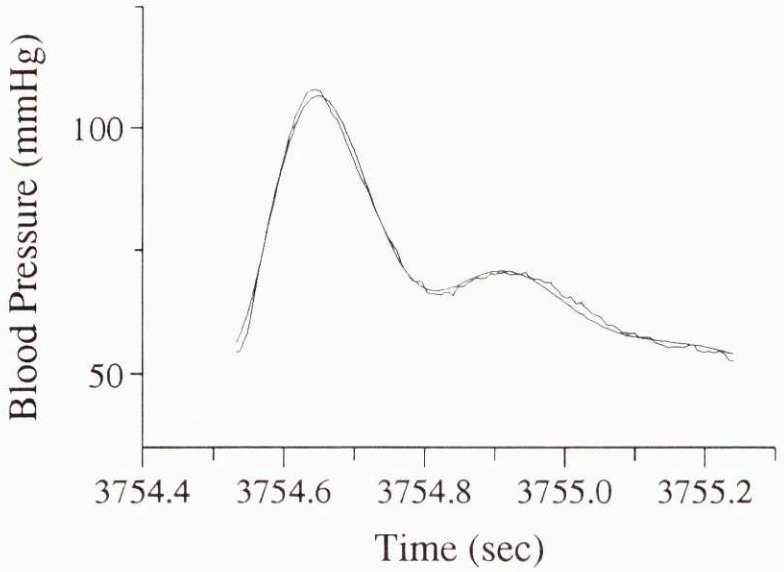

Figure 2-3: The display of *bpshape_wk4*: a sample beat and its fit.

the six parameters of the model were retained beyond this point in my analysis. Each of the parameters was then plotted versus time, respiratory phase, and each of the other parameters. The time plots were used to assess the stationarity of the data. Even though in a physical sense, the subjects were not moving about during the study, changes in depth of respiration, speed of inspiration and expiration, and other factors can introduce nonstationarity in the parameters. If the data are nonstationary, then the results of the linear regressions of the analog model parameters are difficult to interpret.

After stationary sections of the data were selected, all the combinations of the parameters and their linear correlations were graphed as scatter plots. The four combinations of parameters with the highest correlations were selected and regressed to curves using the statistics program *nlmodel*, also by Wendell Ocasio. In order for the regression to be acceptable, plots of the residuals of the independant variable must not exhibit trends when plotted versus time or versus the dependant variable. The purpose of performing these regressions was to obtain relationships between the forecasted quantities, A_n, B_n, and P_n, and the other parameters of the analog

model, so that the blood pressure waveform for a forecasted beat could be completely constructed only from the predicted value of the two physiologic rates and the pulse pressure.

After performing these regressions, *nlmodel* allows the user to select the break-points for the piecewise linear model of respiratory phase, as described in section 1.4. The program then performs all the regressions and forecasts as pre-specified by the user. The output from *nlmodel* is an ASCII file containing all the significance values, weighting functions and R-square values for the regressions and forecasts. The user must then decide whether the regression equations were adequate, and change them accordingly.

Chapter 3

Results

This Results section is organized into three parts. First, time series information and frequency analysis from the original data is presented in order to show the effects of the autonomic stimuli (metronomic breathing and postural tilt) on blood pressure and heart rate. Second, for each intervention, the fits obtained from the analog model, and the values of the circuit model parameters described in section 1.3 are examined. Lastly, the results of the model for forecasting are presented, with emphasis on changes in the coefficients of equations 1.5, 1.7, 1.8, and 1.9 from section 1.4. Due to the large amount of data accumulated in this study, only representative data from one young female subject is presented here. For complete records corresponding to all of the subjects, please refer to the appendix.

3.1 The Data

The original respiration signal and its fast Fourier transform (FFT) for young subject my3 are shown in figure 3-1 for each of six conditions: free breathing and supine, breathing at 0.1 Hz and supine, breathing at 0.2 Hz. and supine, free breathing while tilted, breathing at 0.1 Hz while tilted, and breathing at 0.2 Hz while tilted. Similarly, figure 3-2 shows the heart rate time series and its FFT. The same set of graphs for the systolic blood pressure and its FFT are provided in figure 3-3.

In the supine free breathing panel of figure 3-1, the amplitude in the frequency

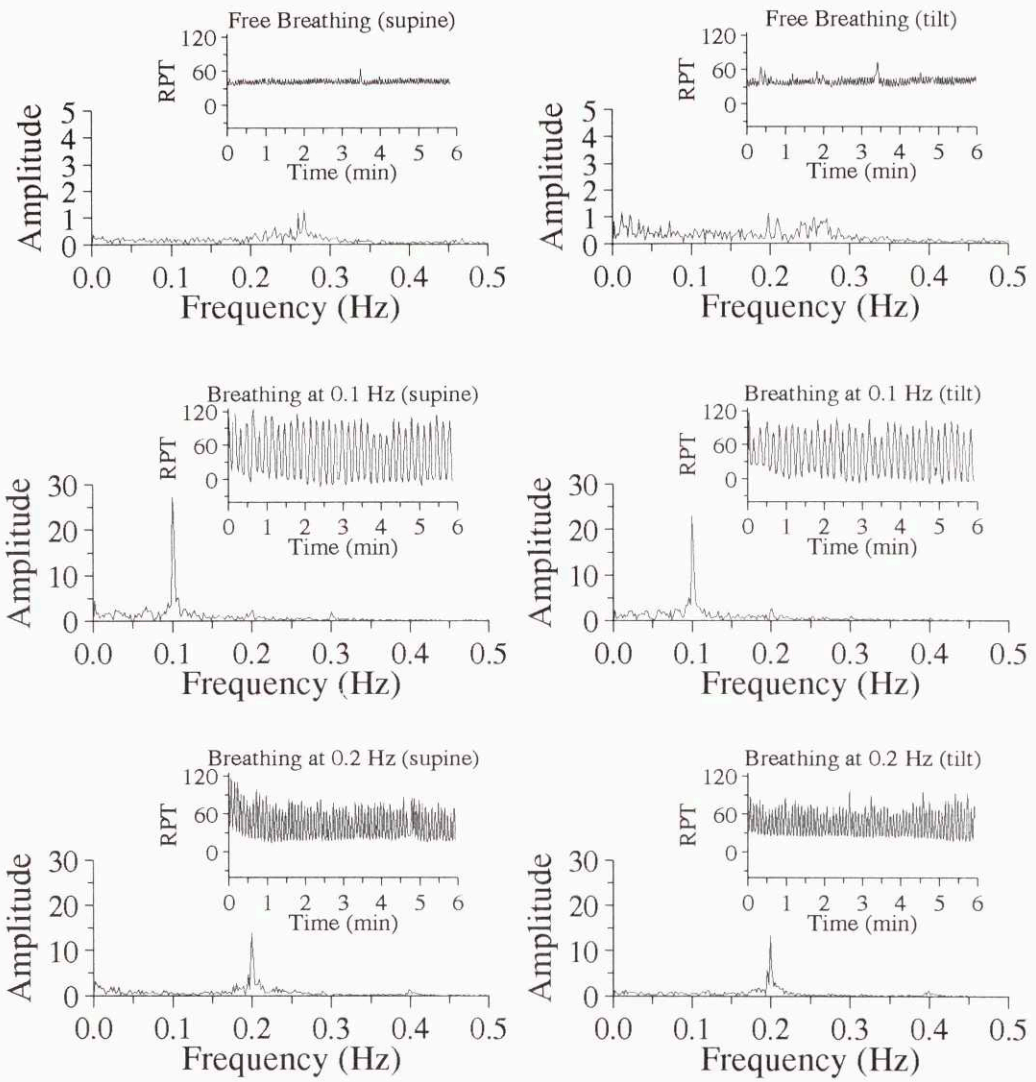

Figure 3-1: Respiration signal and FFT are shown for subject my3 in each of the six possible conditions of the study.

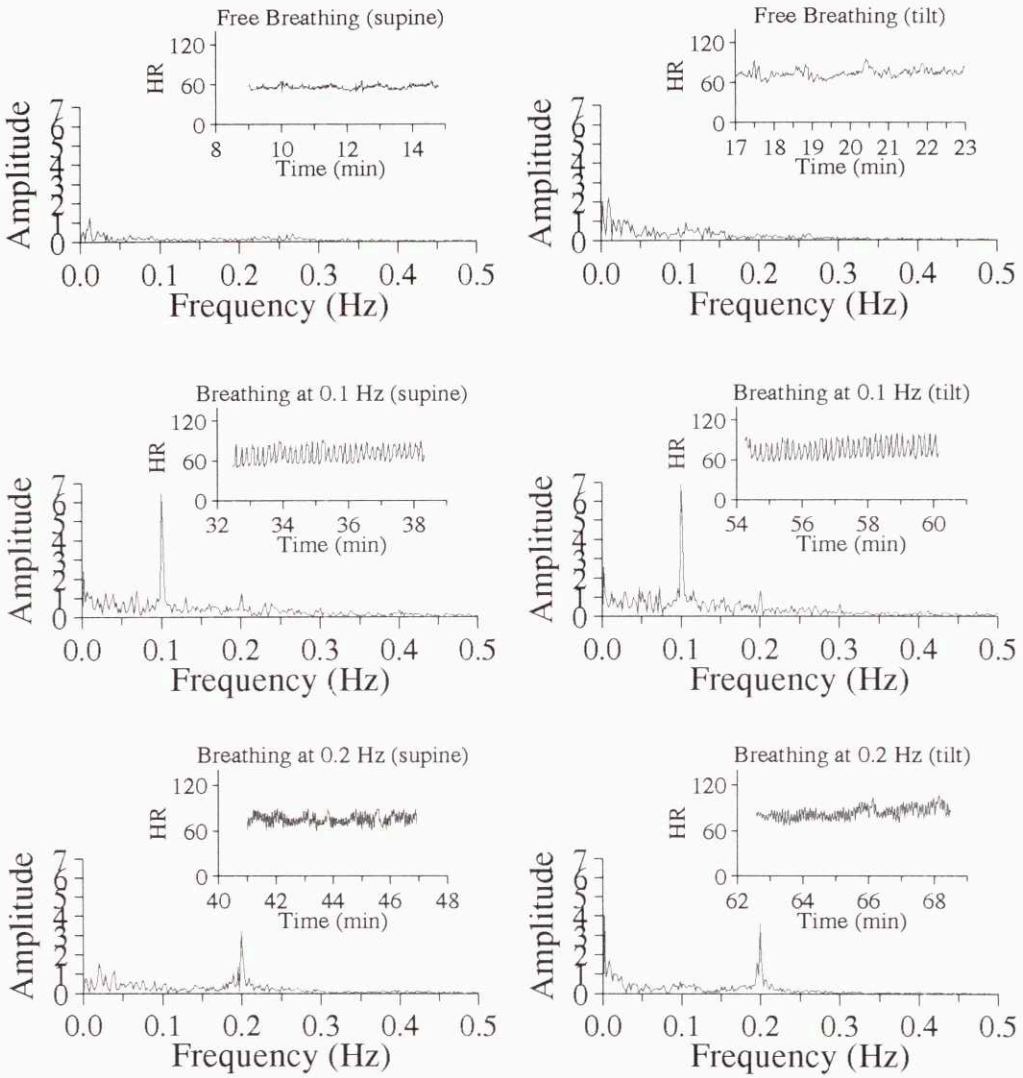

Figure 3-2: Heart rate time series and FFT are shown for subject my3 in each of the six possible conditions of the study.

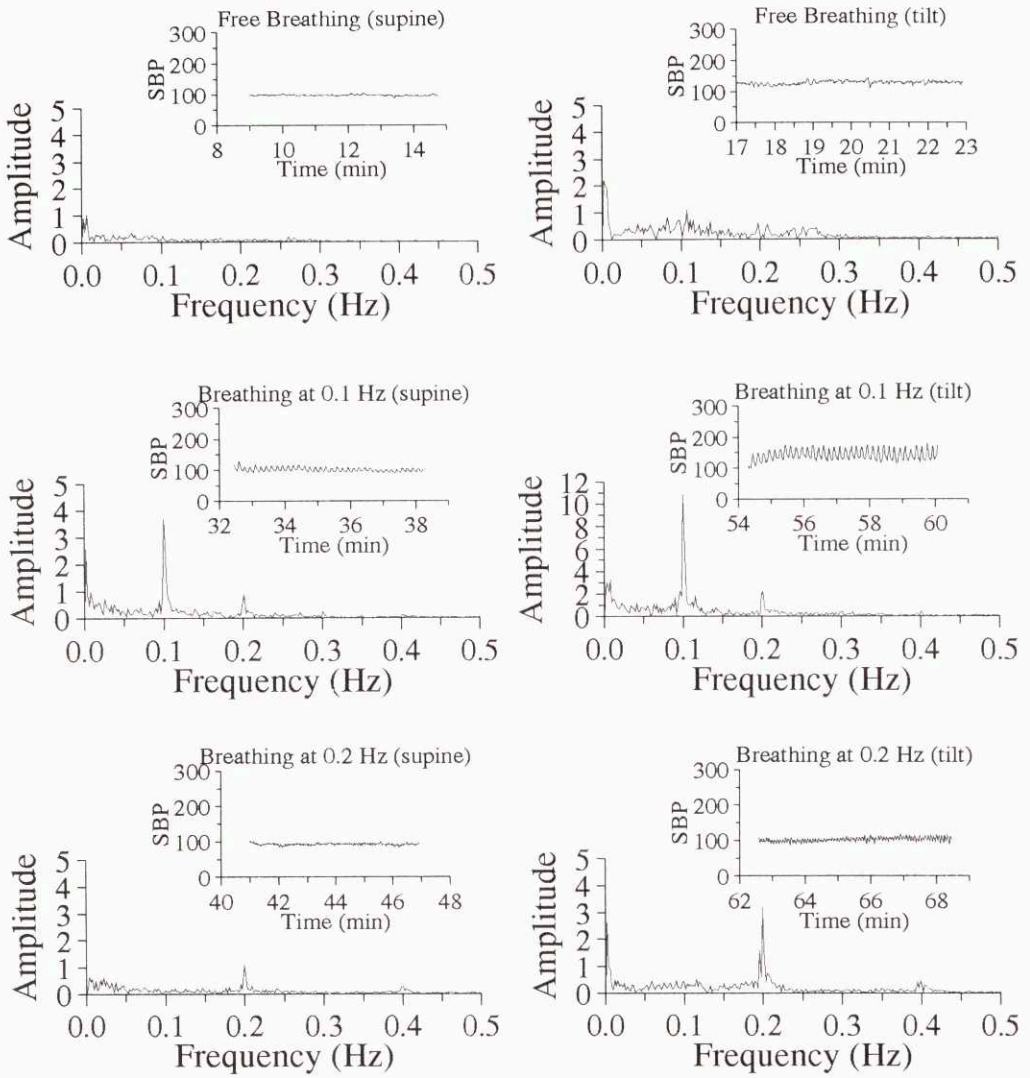

Figure 3-3: Systolic blood pressure time series and FFT are shown for subject my3 in each of the six possible conditions of the study.

band from 0.2 Hz to 0.3 Hz is larger than at other frequencies. This band corresponds to the subject's normal respiration. A slight peak in amplitude within the same frequency band is also visible in the corresponding heart rate plot (figure 3-2) and to a lesser extent, in the blood pressure plot (figure 3-3 for supine breathing.

During the free breathing tilt, there is elevated low frequency (less than 0.1 Hz) activity in the FFT of the respiratory time series as compared to the FFT in the free breathing section (possibly due to a change in the respiratory waveform in response to the postural stress). However, there is still a distinct respiratory band in the 0.2 Hz to 0.3 Hz range. Examining the free breathing tilt panel of the blood pressure and heart rate plots reveals a second broad peak from approximately 0.75 Hz to 1.50 Hz, which is similar to Meyer wave oscillations often observed during tilt (see section 1.2.2).

For both metronomic breathing frequencies (0.1 Hz and 0.2 Hz) the respiratory time series and FFT are similar. The peak in the FFT corresponding to the respiratory frequency is of comparable amplitude in both supine and tilted situations. The same is true of the heart rate time series. These data confirm that the subject was in fact breathing consistently at the desired frequency. Please note that the amplitude scales for the metronomic breathing panels in figure 3-1 are much bigger than the free breathing amplitude scales.

When examining the systolic blood pressure figure (figure 3-3), one observes a marked increase in amplitude of the metronomic breathing spikes during tilt. For both breathing frequencies, the amplitude of the peak more than doubles. Again, please note that in the case of the 0.1 Hz tilt shown in figure 3-3, the amplitude scale has been increased to accommodate the large peak in the blood pressure FFT.

Since it was shown that the data from subject my3 exhibit distinct responses to the different autonomic stimuli used in this experiment, these data were then processed by *bpshape_wk4* and *nlmodel* to obtain model fits and forecasts.

Breathing Rate	Position	P_1	P_2	P_3	P_4	P_5	P_6
0.1 Hz	supine	28.58	91.09	757.04	124588.33	41.50	49.66
0.2 Hz	supine	32.52	175.20	1200.28	131142.59	38.81	101.22
normal	supine	24.10	47.97	713.90	93653.77	38.56	40.15
0.1 Hz	tilt	15.05	71.55	509.35	188677.82	14.41	-0.62
0.2 Hz	tilt	13.87	79.71	451.37	94209.61	37.85	-24.67
normal	tilt	12.07	42.23	519.76	92926.28	29.19	-13.14

Table 3.1: Subject my3: Analog Circuit Model Parameter Values

3.2 Regressions for the Analog Model

The polynomial regressions for the parameters P_1 through P_6 for each of the autonomic interventions are shown in figures 3-4, 3-5, 3-6, 3-7, 3-8, and 3-9. In all cases a quadratic was used for the regression of P_3 against P_1, a third order polynomial in the case of P_5 versus P_2, and linear equations were used for the other two regressions, P_4 versus pulse pressure, and time of systole versus A_n.

In general, the fits for this subject are quite good. However, for the supine metronomic breathing plots, particularly for the 0.2 Hz metronomic breathing frequency, there appear to be certain nonuniformities about the distribution of points in each of the four correlation plots. Since similar nonuniformities were not observed in the other subjects in the study, it is possible that these distributions are due to some remaining non-stationarity in the data. Other possibilities are discussed in section 4. In figures 3-7, 3-8, and 3-9, there is much better fit.

Tables 3.2 and 3.2 below show the average value of each of the parameters and their corresponding standard deviations, respectively. Since each of the parameters is an analog for different characteristics of the cardiovascular physiology (see section 1.3), one would expect the parameters to change in different ways to reflect the vasoconstriction with tilt or the change in heart rate regulation with respiratory sinus arrhythmia.

For $P_1 = A_n \equiv 1/RC_m$, during tilt the parameter value is approximately half its value in the supine case, so the product RC_m has doubled with tilt. In contrast, $P_2 = B_n \equiv 1/LC_e$, appears to increase when breathing is metronomic, especially

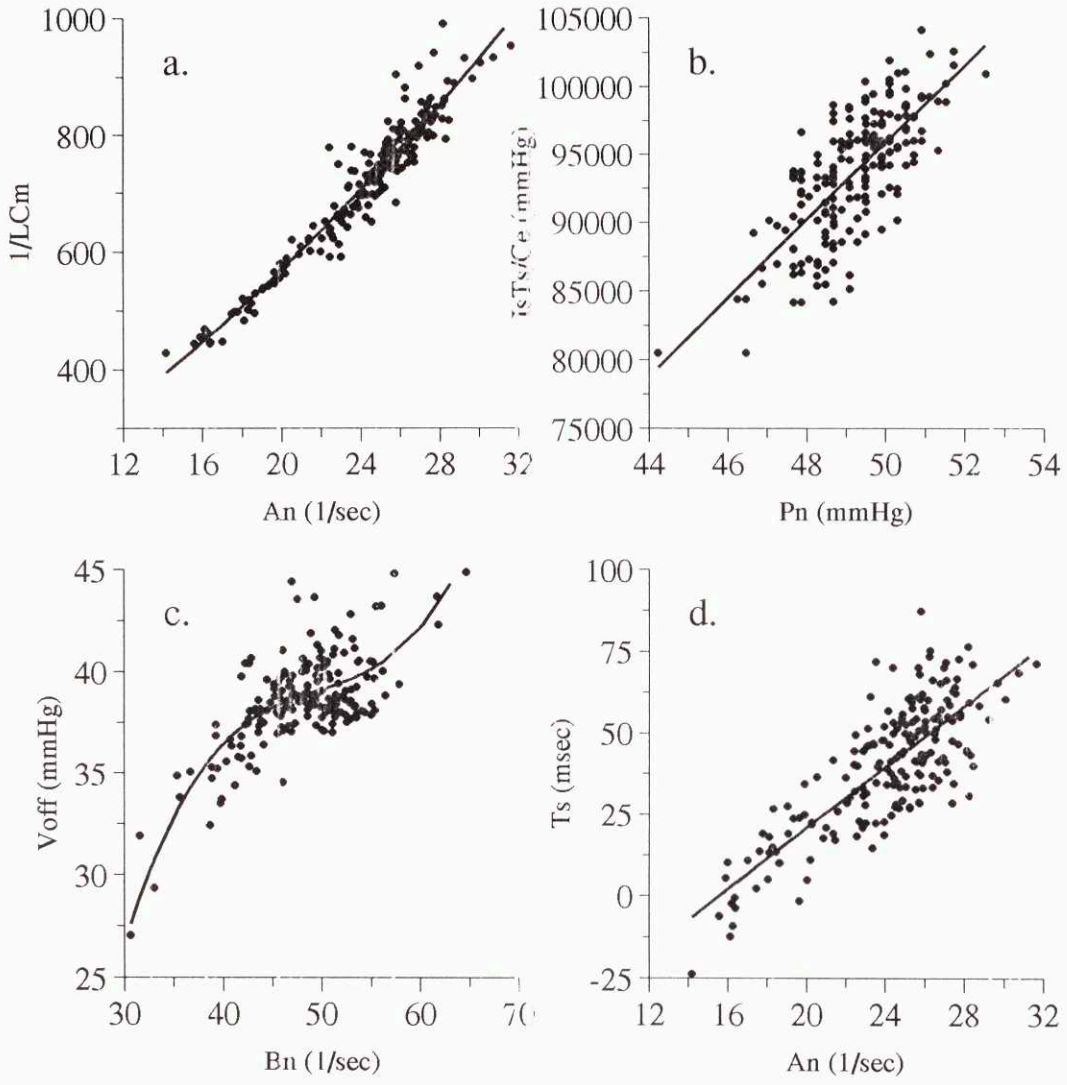

Figure 3-4: Parameter Correlations for subject my3 while supine and breathing normally. Please note that each point represents the values observed during one of the heartbeats of the time series shown in the previous data section.

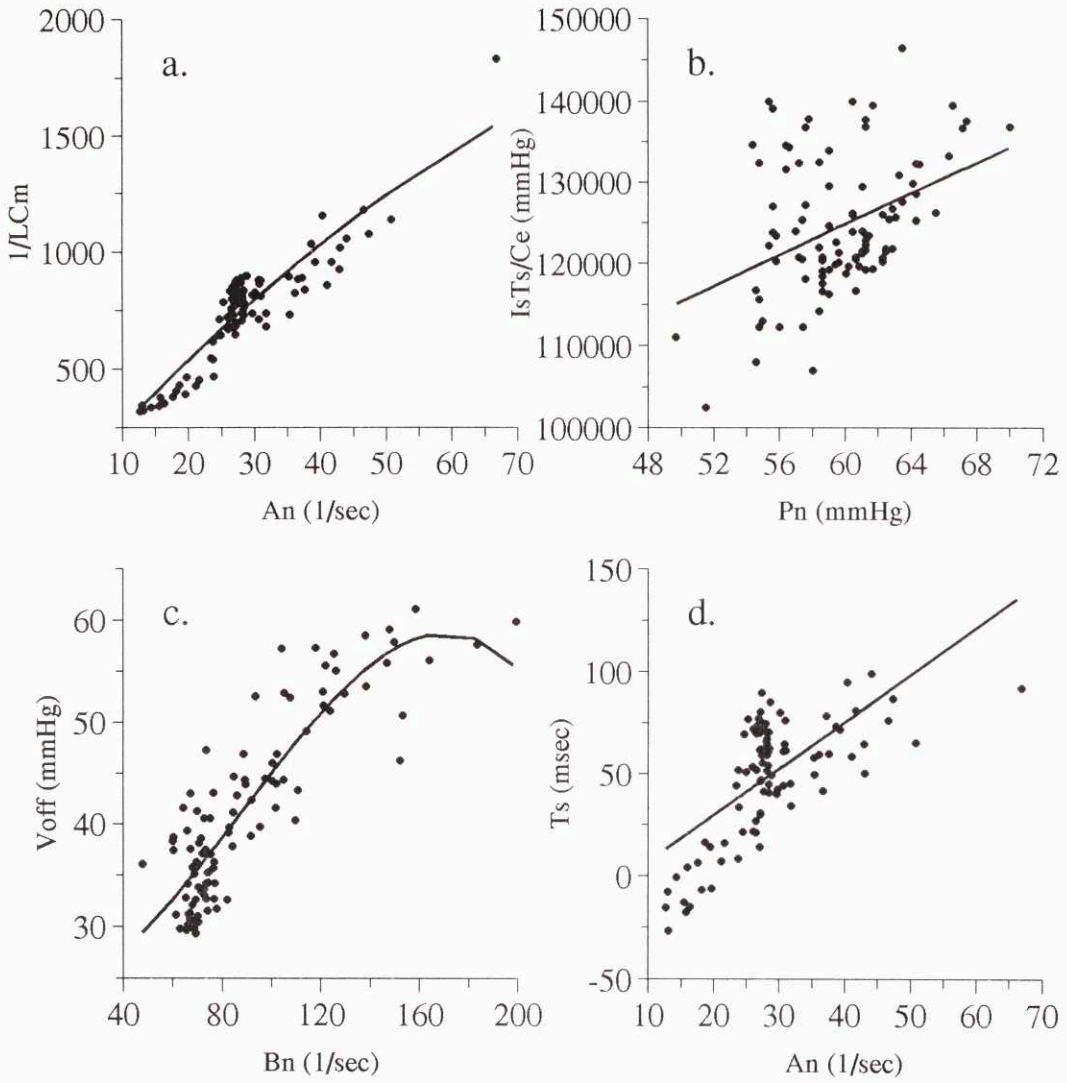

Figure 3-5: Parameter Correlations for subject my3 while supine and breathing at six breaths per minute.

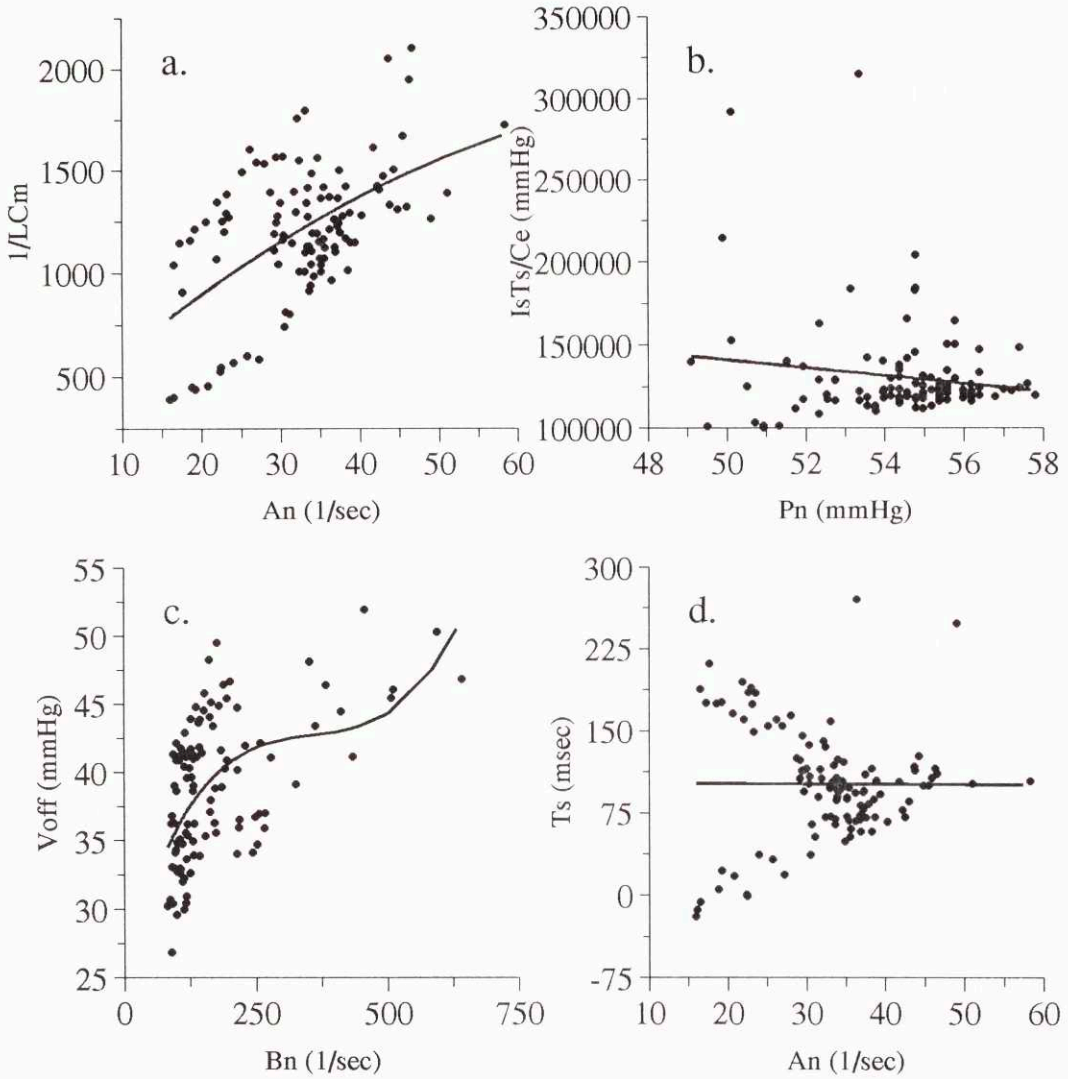

Figure 3-6: Parameter Correlations for subject my3 while supine and breathing at twelve breaths per minute.

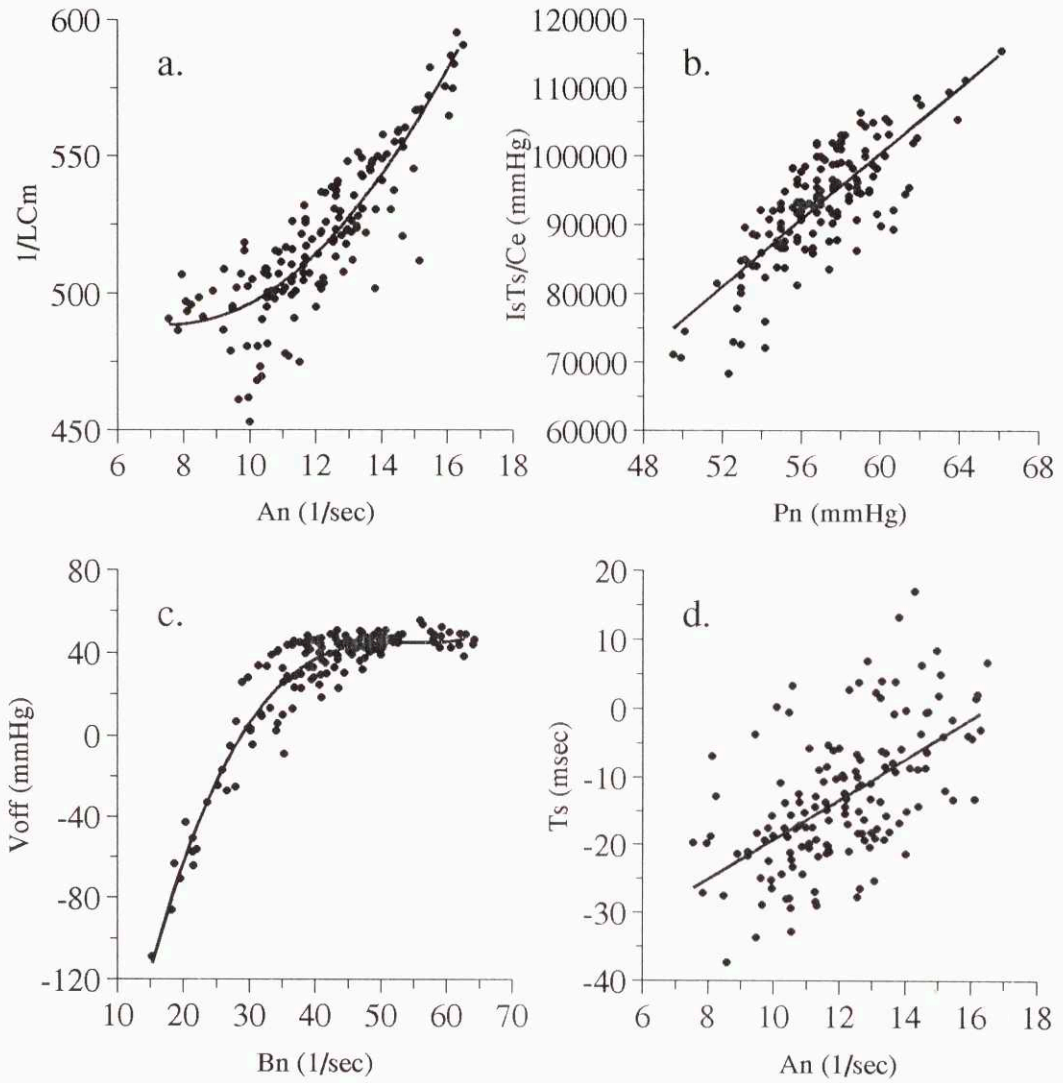

Figure 3-7: Parameter Correlations for subject my3 while tilted and breathing normally.

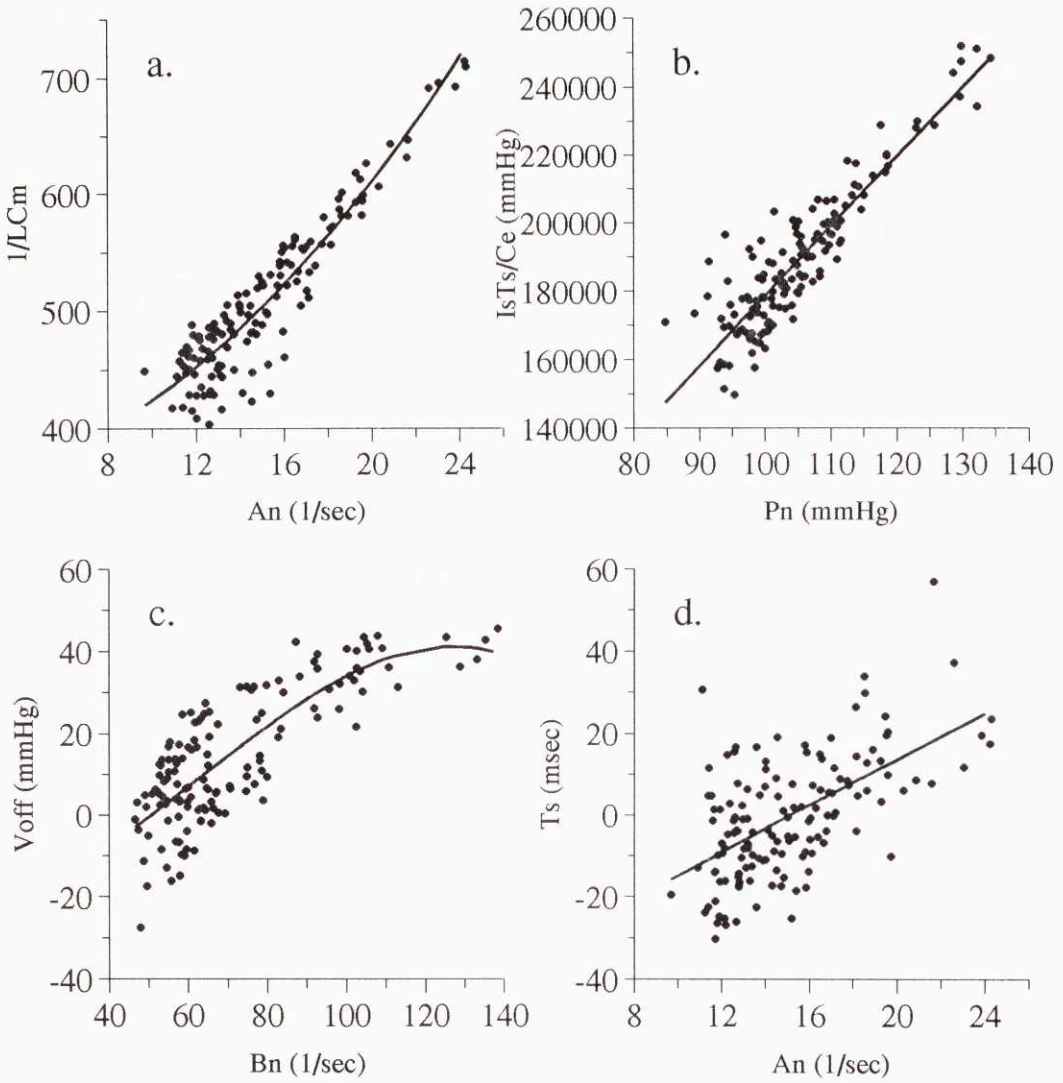

Figure 3-8: Parameter Correlations for subject my3 while tilted and breathing at six breaths per minute.

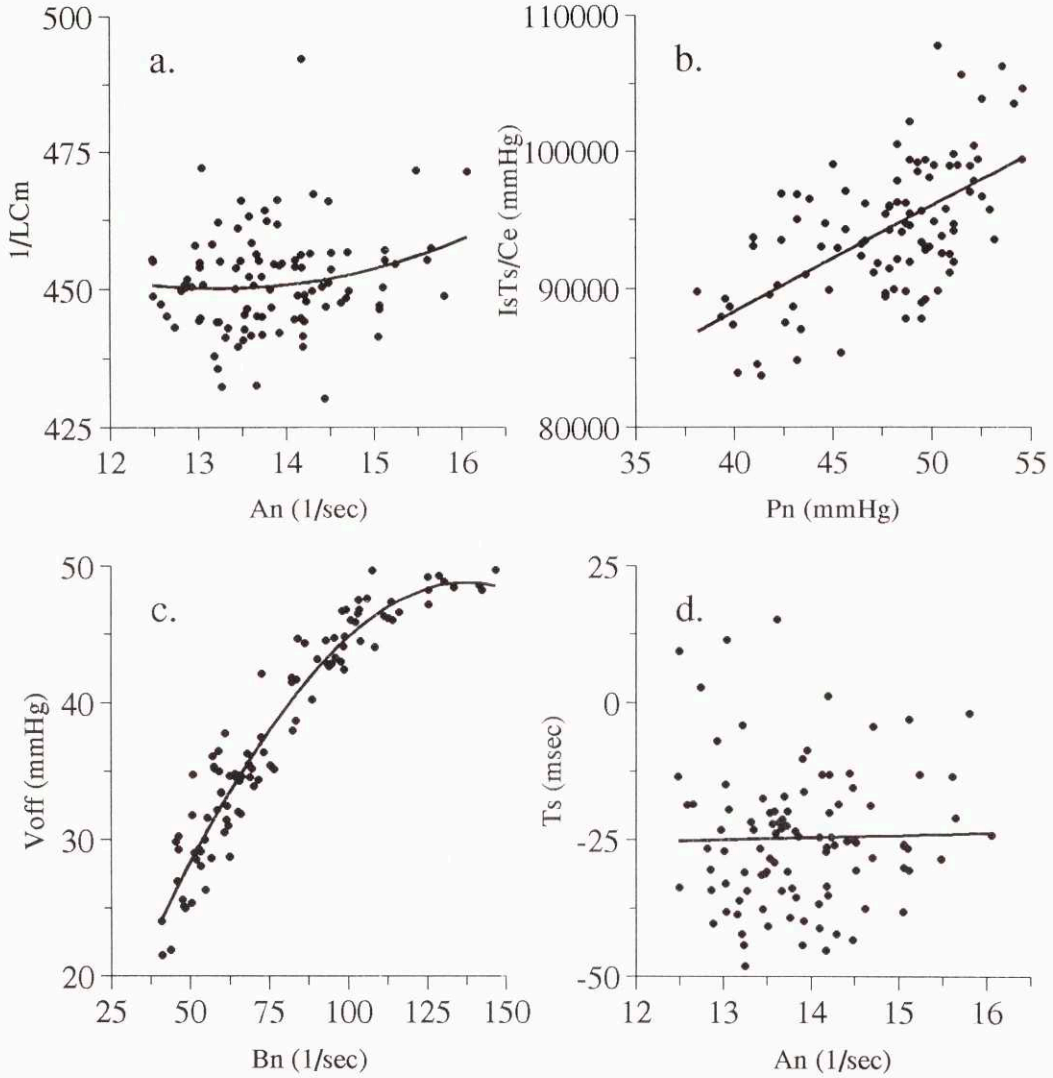

Figure 3-9: Parameter Correlations for subject my3 while tilted and breathing at twelve breaths per minute.

Breathing Rate	Position	P_1	P_2	P_3	P_4	P_5	P_6
0.1 Hz	supine	8.37	30.25	224.11	8265.45	8.93	28.76
0.2 Hz	supine	8.27	109.05	337.42	30521.25	5.27	52.03
normal	supine	3.33	5.26	119.58	4558.77	2.32	19.64
0.1 Hz	tilt	3.06	20.61	66.64	21374.56	15.94	14.79
0.2 Hz	tilt	0.80	26.79	9.30	4955.89	7.68	12.65
normal	tilt	1.99	10.55	27.91	8402.12	30.29	10.12

Table 3.2: Subject my3: Standard Deviations of Circuit Model Parameter Values

when the subject is supine. The parameter $P_3 = 1/LC_m$ seems independent of posture during normal breathing but decreases with tilt during metronomic breathing.

For the supine values, $P_4 = I_s T_s / C_e$ increases with increasing respiratory frequency, and has nearly the same values for the free breathing and 0.2 Hz tilt data. However, the value for the 0.1 Hz tilt is approximately double that of the other two tilt sections.

For $P_5 = V_{off}$, the supine values are fairly constant. During the tilt, the 0.1 Hz parameter value is notably lower than in the free breathing and 0.2 Hz sections. Lastly $P_6 = T_s$ decreases during tilt, but does not show any consistent pattern with respiration.

3.3 The Predictive Model

The following figures (3-10, 3-11, 3-12, 3-13, 3-14, and 3-15) show the results of calculating P_n, I_n, A_n, B_n, and D_n as described in sections 1.3 and 1.4. The forecasting in these figures is taken from the "in sample" segments. The model does very well capturing the changes in dynamics as the interventions change. In particular, the tilted metronomic breathing sections show high correlations between the forecast and the true signal.

The figures 3-16, 3-17, 3-18, and 3-19 show plots of the the coefficients for equations 1.5, 1.7, 1.8, and 1.9. Each coefficient's values during the different sections of data are plotted together in order to determine whether these values change as a function of the different interventions. For example, if one of the parameters were

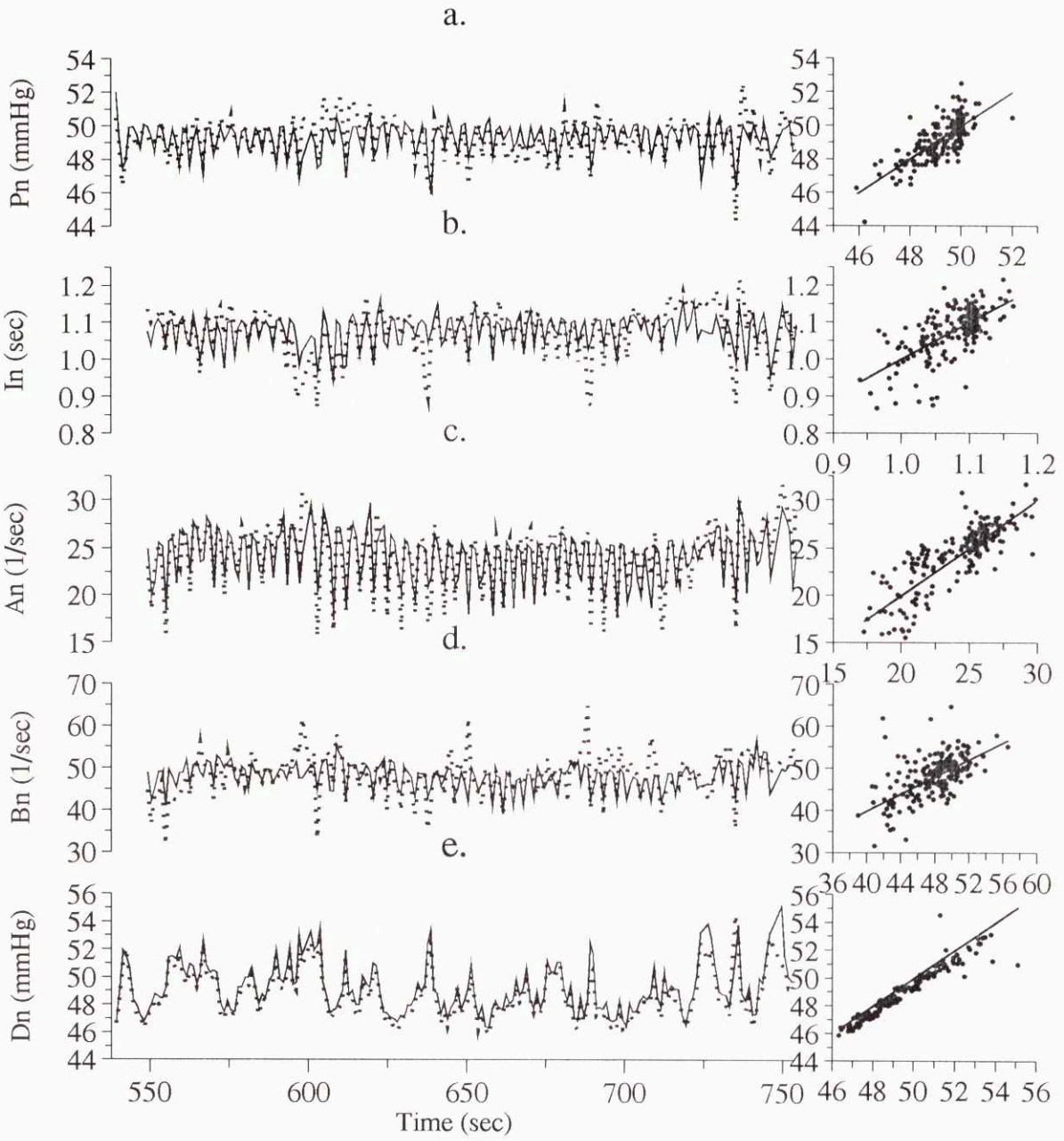

Figure 3-10: Parameter time series for subject my3 while supine and breathing normally. The solid line shows the forecasted parameter values, while the dotted line shows the actual fitted parameter values. The one-step "in sample" forecast is shown in the smaller graphs to the right of the time series show the forecasted values plotted against the actual values

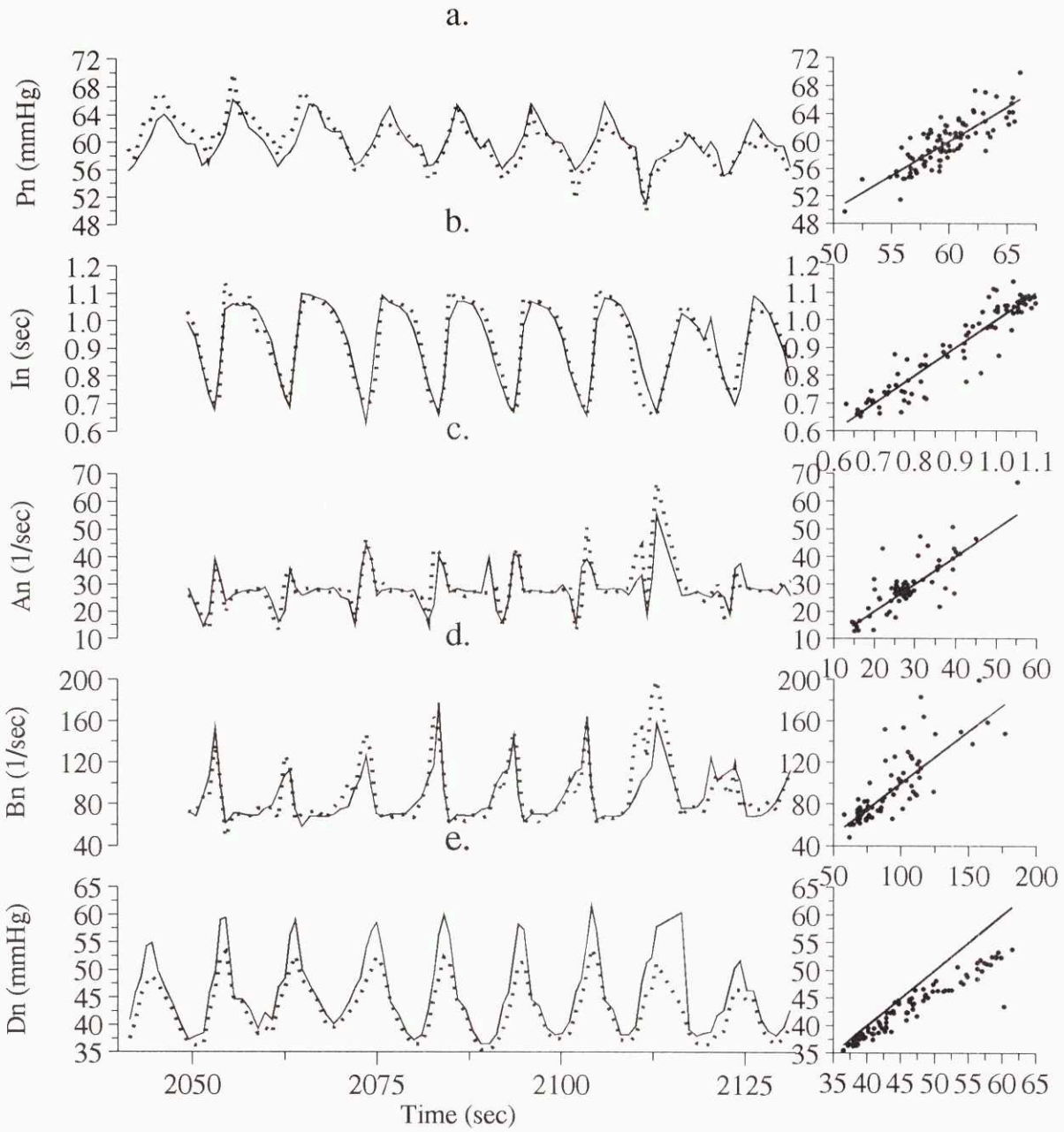

Figure 3-11: Parameter time series for subject my3 while supine and breathing at six breaths per minute. The solid line shows the forecasted parameter values, while the dotted line shows the actual fitted parameter values. The one-step "in sample" forecast is shown in the smaller graphs to the right of the time series show the forecasted values plotted against the actual values

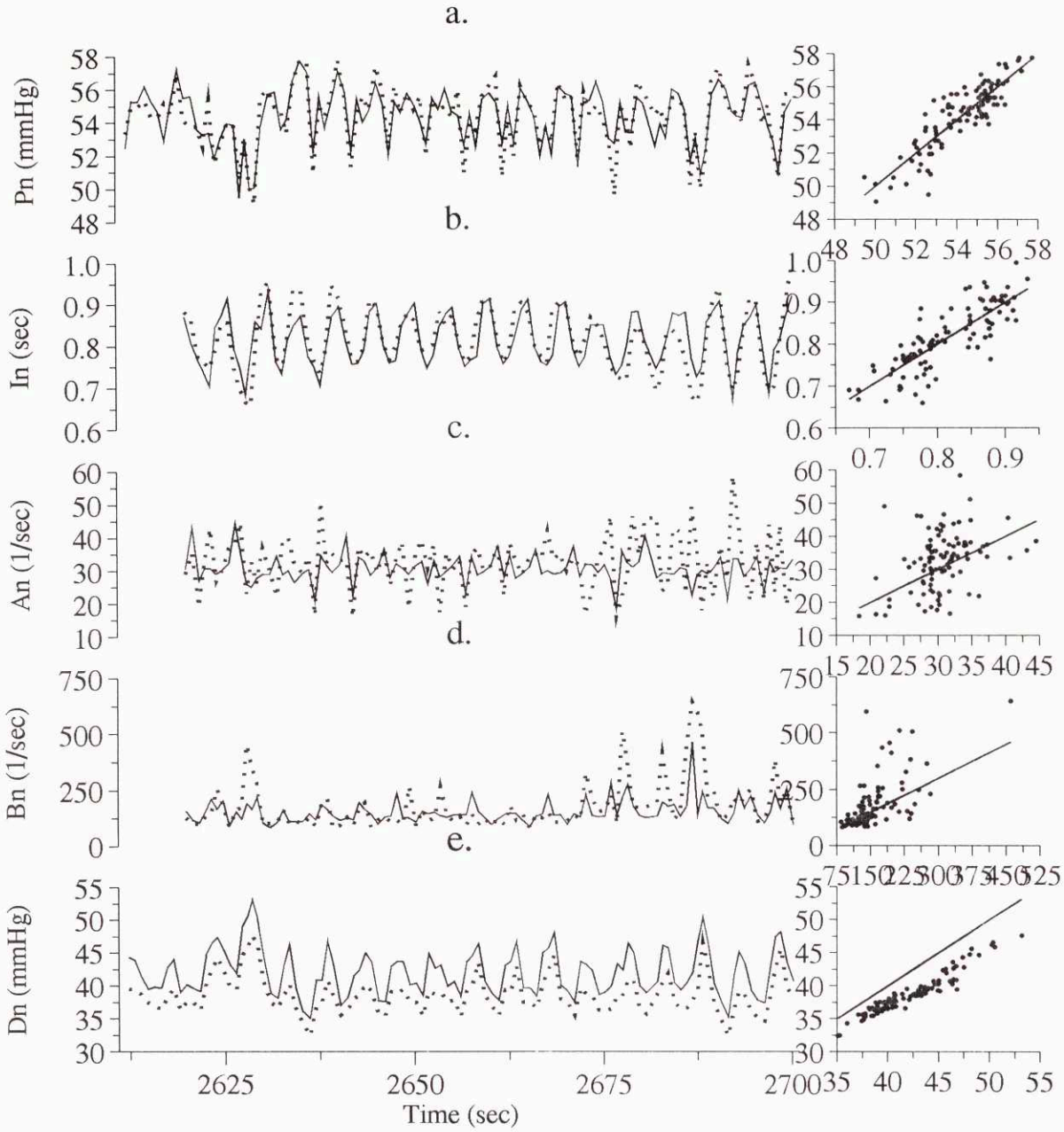

Figure 3-12: Parameter time series for subject my3 while supine and breathing at twelve breaths per minute. The solid line shows the forecasted parameter values, while the dotted line shows the actual fitted parameter values. The one-step "in sample" forecast is shown in the smaller graphs to the right of the time series show the forecasted values plotted against the actual values

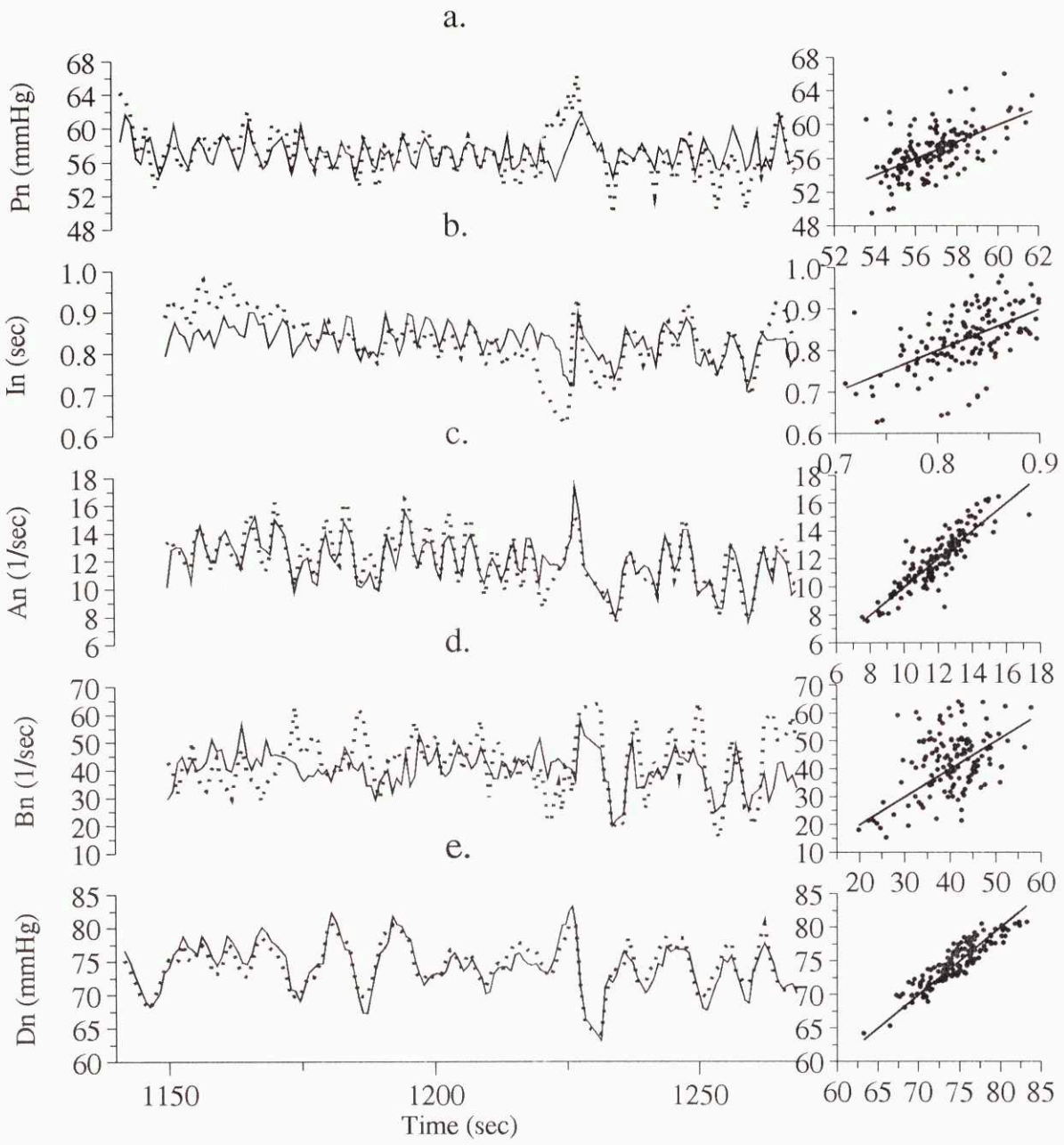

Figure 3-13: Parameter time series for subject my3 while tilted and breathing normally. The solid line shows the forecasted parameter values, while the dotted line shows the actual fitted parameter values. The one-step "in sample" forecast is shown in the smaller graphs to the right of the time series show the forecasted values plotted against the actual values

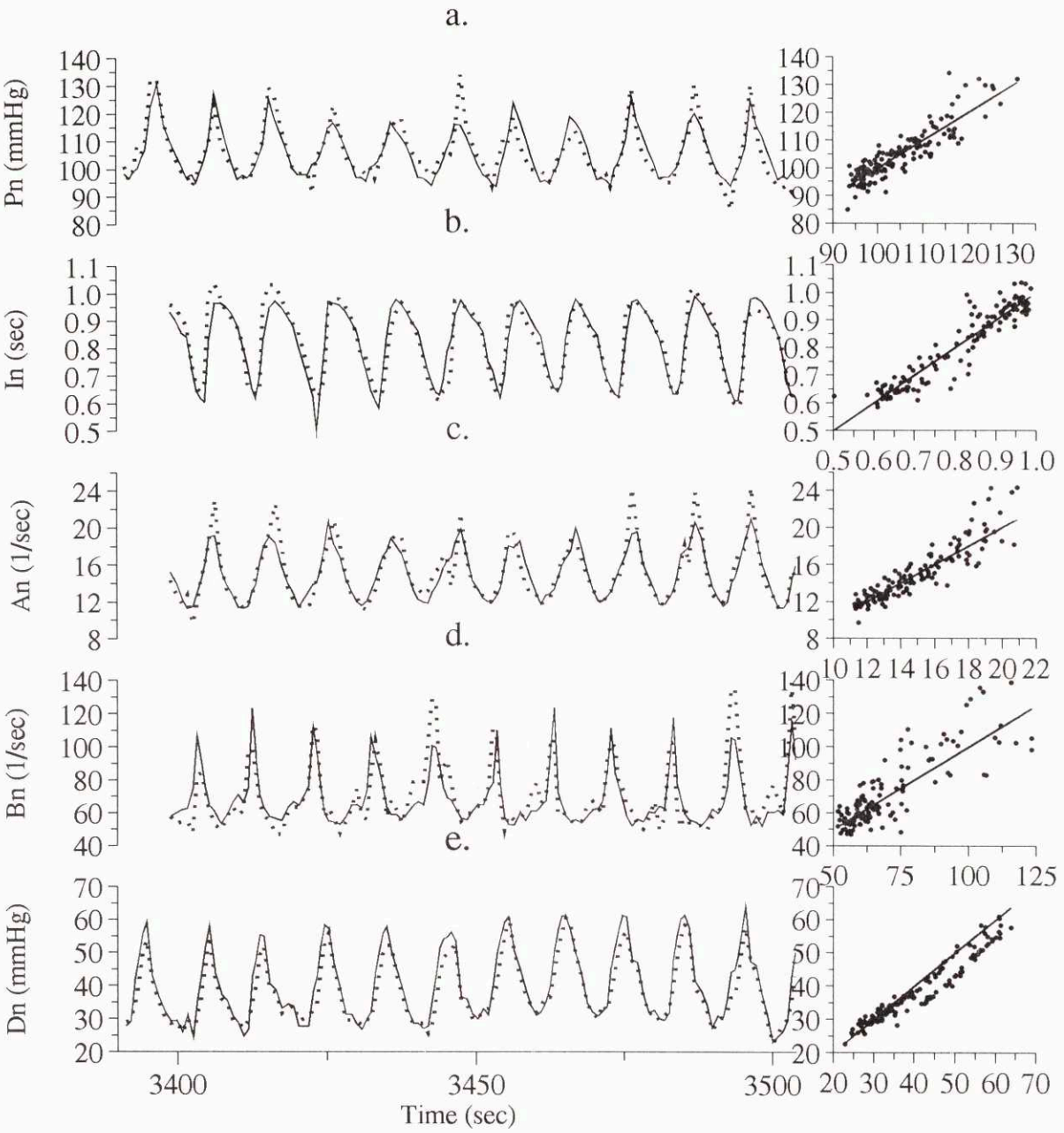

Figure 3-14: Parameter time series for subject my3 while tilted and breathing at six breaths per minute. The solid line shows the forecasted parameter values, while the dotted line shows the actual fitted parameter values. The one-step "in sample" forecast is shown in the smaller graphs to the right of the time series show the forecasted values plotted against the actual values

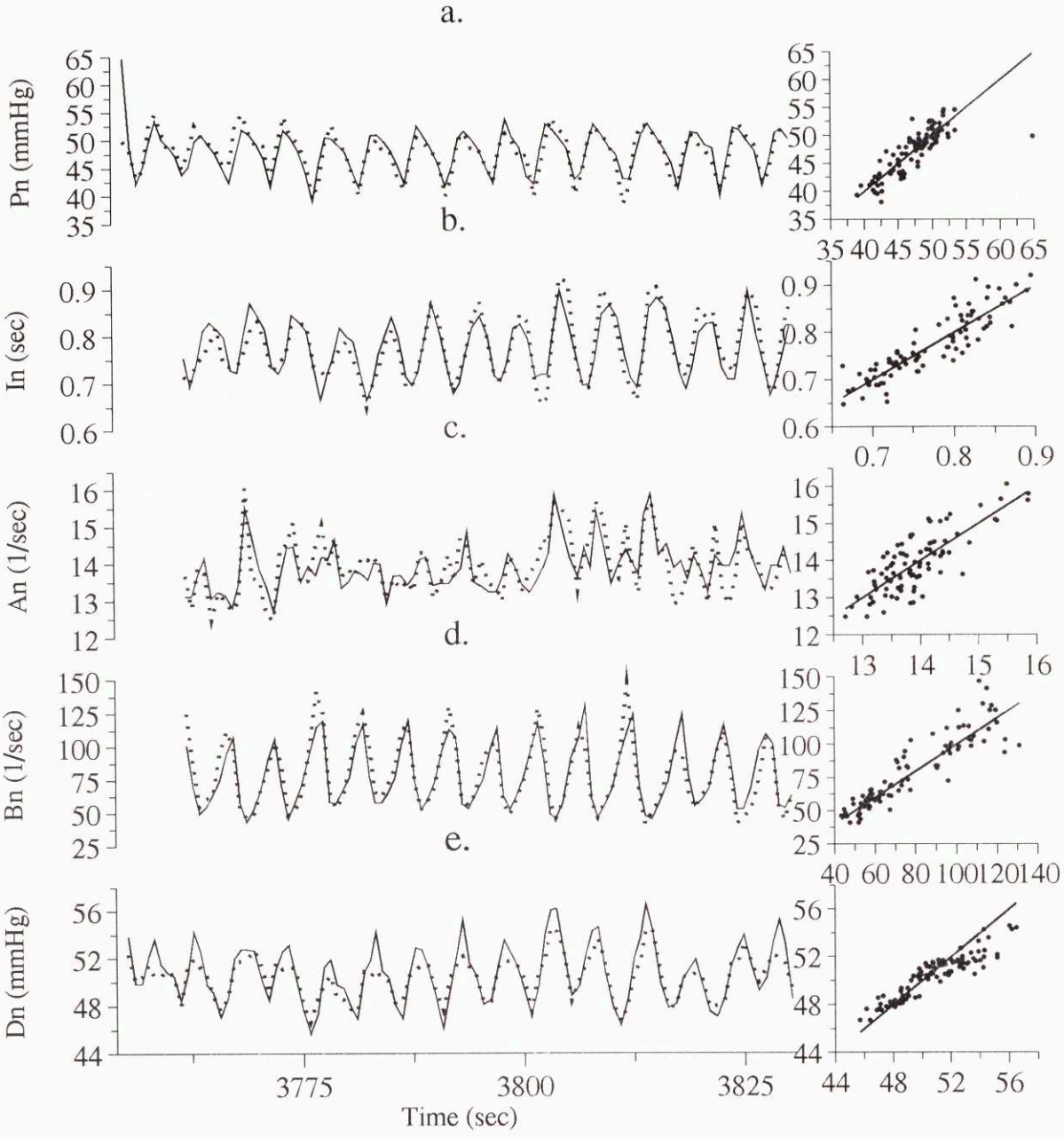

Figure 3-15: Parameter time series for subject my3 while tilted and breathing at twelve breaths per minute. The solid line shows the forecasted parameter values, while the dotted line shows the actual fitted parameter values. The one-step "in sample" forecast is shown in the smaller graphs to the right of the time series show the forecasted values plotted against the actual values

to change as a function of tilt, the scatter plots would show all the filled-in shapes clustering in one area of the plot, while all the empty shapes would cluster in another area. Alternatively, if the parameter were to change as a function of metronomic breathing frequency, all the circles (filled-in or not) would be in one area, squares in another, and triangles in another.

Examining the scatter plots, one notices that the vast majority of the parameters appear to show little, if any dependancy on intervention. In figure 3-18, coefficient c_0 appears to show a pattern, with the filled-in shapes representing tilt data occupying the upper portion of the graph, and the supine data occupying the lower portion. Thereforee, the values of parameter P_1 seen in table 3.2 may be explained by the model's offset coefficient. Also in figure 3-19, coefficient d_0 appears to be higher for free breathing values than for metronomic breathing ones (irrespective of posture) because the circles cluster near the top of the graph. Also in figure 3-19, coefficient d_2 seems to decrease in the case of free breathing.

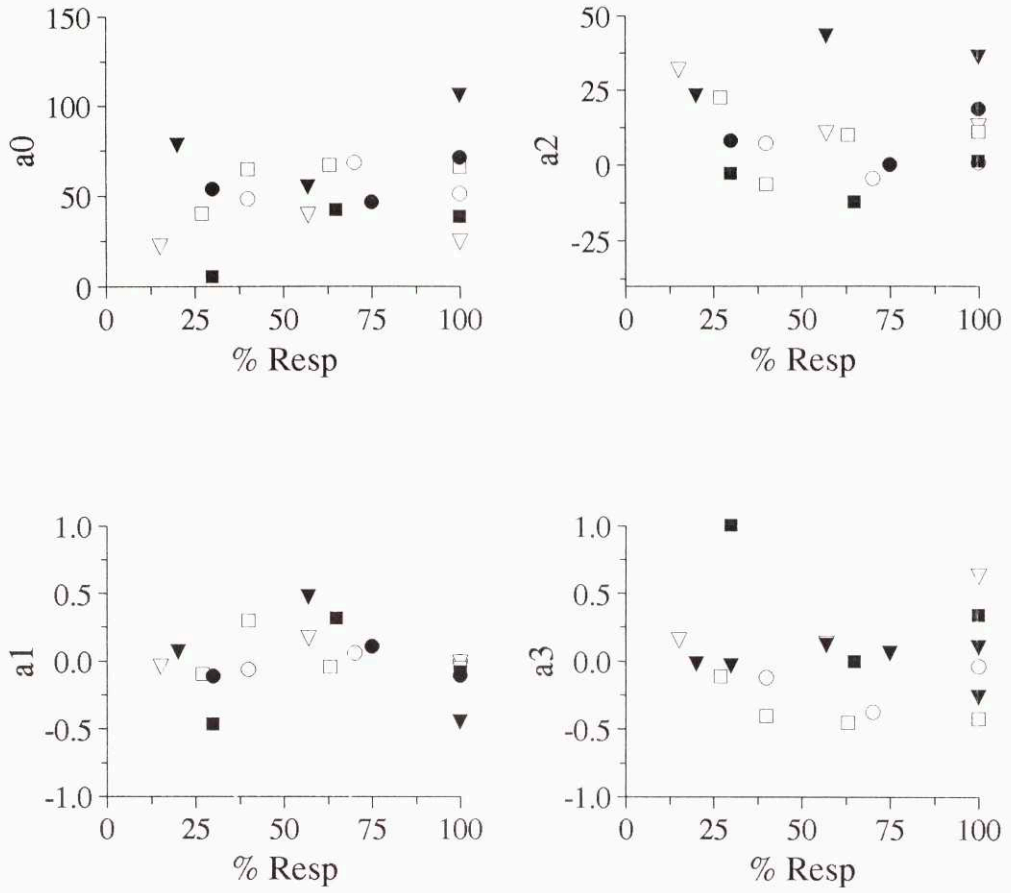

Figure 3-16: Shown are four scatterplots, one for each of the coefficients in the equation for pulse pressure, a_0, a_1, a_2, and a_3. Circles correspond to free breathing, triangles, to 0.1 Hz breathing, and squares, to 0.2 Hz breathing. Also, open shapes are from supine portions of the data, while the shaded shapes are from tilted portions.

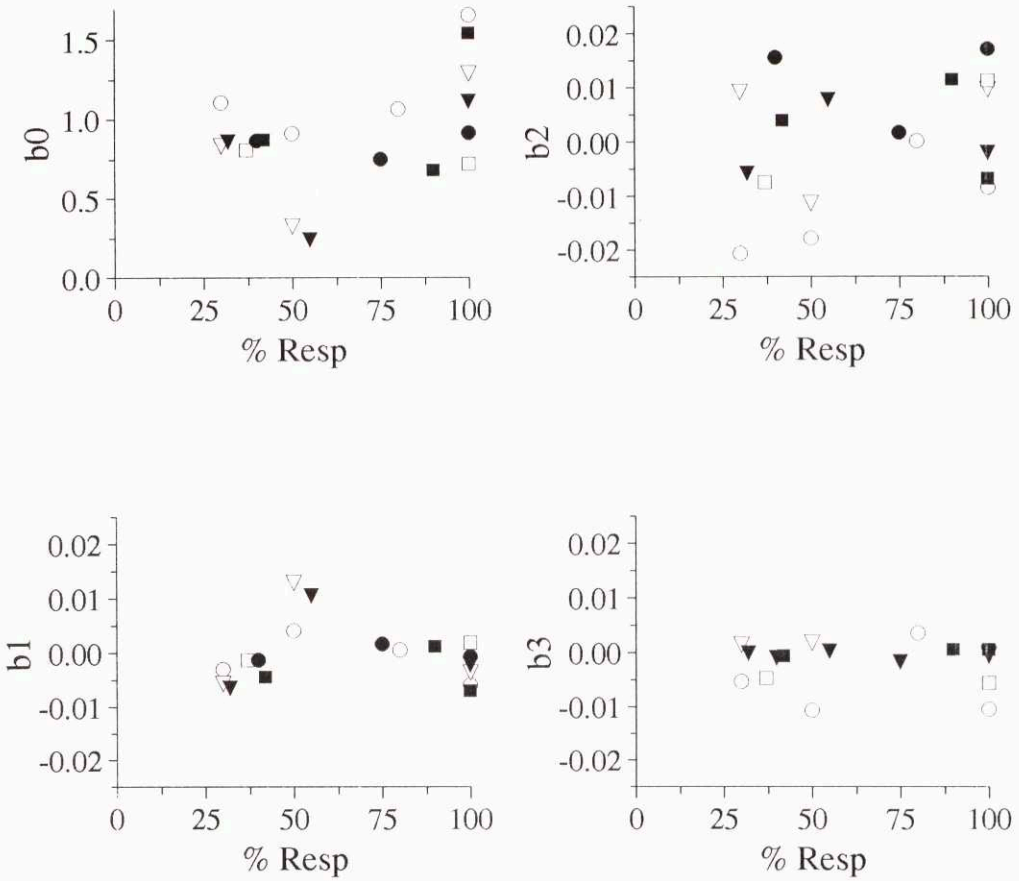

Figure 3-17: Shown are four scatterplots, one for each of the coefficients in the equation for beat interval, b_0, b_1, b_2, and b_3. Circles correspond to free breathing, triangles, to 0.1 Hz breathing, and squares, to 0.2 Hz breathing. Also, open shapes are from supine portions of the data, while the shaded shapes are from tilted portions.

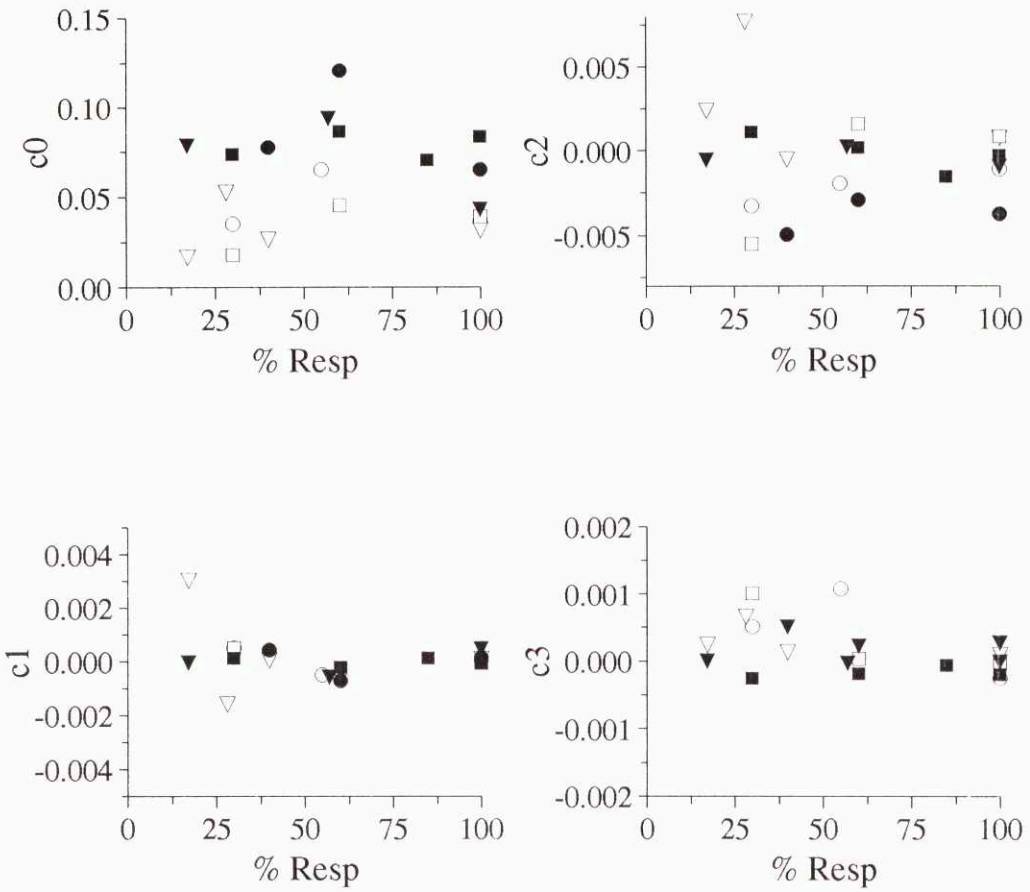

Figure 3-18: Shown are four scatterplots, one for each of the coefficients in the equation for A_n, c_0, c_1, c_2, and c_3. Circles correspond to free breathing, triangles, to 0.1 Hz breathing, and squares, to 0.2 Hz breathing. Also, open shapes are from supine portions of the data, while the shaded shapes are from tilted portions.

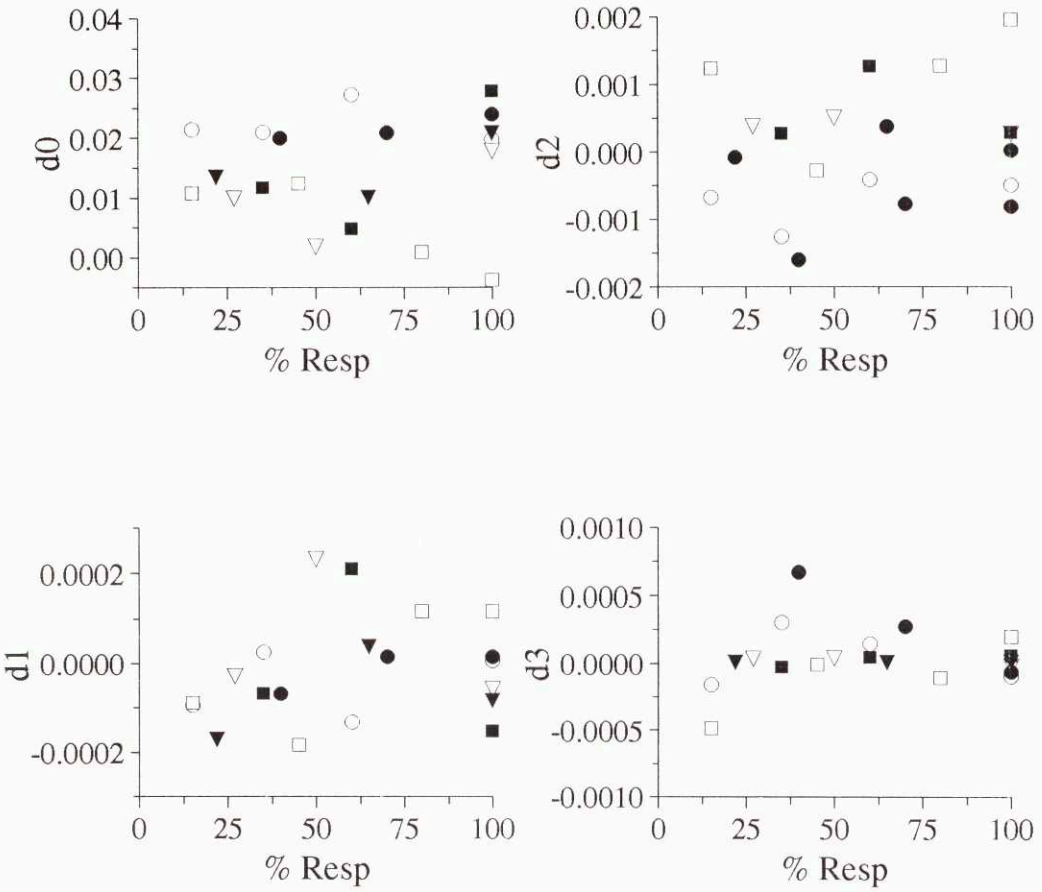

Figure 3-19: Shown are four scatterplots, one for each of the coefficients in the equation for B_n, d_0, d_1, d_2, and d_3. Circles correspond to free breathing, triangles, to 0.1 Hz breathing, and squares, to 0.2 Hz breathing. Also, open shapes are from supine portions of the data, while the shaded shapes are from tilted portions.

Chapter 4

Discussion

Before considering the changes in the parameters of the analog circuit model and the coefficients of the model for forecasting, please note that in the data presented in section 3.1 exhibit some interesting characteristics. First, there are peaks corresponding to harmonics of the respiratory frequency evident in the metronomic breathing panels of figures 3-1, 3-3, and 3-2. The significance of these harmonics is not quite clear, but they appear to be enhanced in the systolic blood pressure data, particularly during tilt. One interpretation is that 1) the respiratory cycle is non-sinusoidal and therefore will exhibit harmonics, and 2) any driven system, such as blood pressure oscillations being driven by the respiratory signal, will exhibit spectral peaks at least at the frequencies at which it is being driven. Also, during tilt in figure 3-3, the FFT in the panel corresponding to 0.1 Hz metronomic breathing exhibits such an increase in amplitude of the respiratory peak as compared to the supine 0.1 Hz panel, that perhaps there is some resonance set up between the Meyer waves of the baroreflex and the metronomic breathing frequency.

4.1 Comparing the Analog Circuit Parameters

For $P_1 = A_n \equiv 1/RC_m$, the most dramatic observation is that during tilt, the parameter value is approximately half it's previous value, so the product, RC_m has doubled. If vasoconstriction has occured, and the diameter of the arteries has gotten smaller,

and the resistance term is approximately inversely proportional to the square of the diameter of the arteries, then this difference is most likely due to a change in the resistance term. One would also expect the muscular capacitance term to increase with stimulation from the sympathetic nervous system.

In contrast, $P_2 = B_n \equiv 1/LC_e$, appears to increase with increasing metronomic breathing frequency, almost independant of posture. One would not expect the elastic component of arterial capacitance to change much with tilt, since the muscular component is what receives the ennervation. If anything, the elastic capacitance may decrease. The inductor, L, primarily describes blood inertance, which should not change much with tilt. In the case of metronomic breathing, however, it is not clear precisely how to account for the increase with respiratory frequency.

In the case of,$P_3 = 1/LC_m$, both attributes of P_1 and P_2 are observed. There is an increase in P_3 with increasing metronomic breathing frequency, and there is a decline with tilt. Since C_m increases with tilt and does not significantly change with respiratory frequency as described for P_1, a change in L must be responsible for the change in both P_3 and P_2 with metronomic breathing frequency. The blood inertance is the constant of proportionality relating the flow in the arteries to the pressure drop across them, so perhaps when the blood pressure is oscillating as shown in figure 3-3, something mechanical about the cardiovascular or pulmonary system decreases the flow rate relative to this pressure, thereby increasing the inductance.

The stroke volume should be at a maximum when the greatest changes in blood pressure oscillations are occuring. Therefore, it makes sense that P_4 is a maximum during the 0.1 Hz tilt section, when the Meyer waves of the baroreflex and the respiratory sinus arrhythmia blood pressure oscillations are resonating together as shown in figure 3-3. Similarly, one would expect that, if the stroke volume is large and the blood pressure is slightly higher as is the case for the 0.1 Hz tilt shown in figure 3-3, the "offset" blood pressure should be lower, since so much more of the blood is circulating and effectively reducing the baseline blood pressure.

That P_6 is sometimes negative is a source of some concern regarding the fits from the analog circuit model. It is possible that since the standard error for the negative

values is greater than the magnitudes themselves, that the correct positive value is within the error limits. However, the negative values may also reflect an inability of the model to correctly discern the time of diastole. Particularly significant is that all the tilt values for P_6 came out to be negative, and that the blood pressure waveform changes morphology during tilt. Possibly some of the suggestions for improvement to the model in section 6 will help alleviate this problem.

4.2 The Predictive Model Coefficients

Part of the objective of this model is to obtain data from a patient under fixed conditions (supine and free breathing, for example) and to then use that data to simulate the patient under a variety of different conditions. However, if the parameters themselves were a function of autonomic stimulus as well as of ϕ, then the model might become too complex to be useful in a for predicting. However since only a few of the coefficients seem to depend very strongly on the intervention, it is unlikely that the dependency of the coefficients on position or breathing frequency would prevent accurate simulations of the kind described above. However more extensive statistical analysis involving many more subjects is necessary to make a firm statement about this issue.

Chapter 5

Conclusions

In this study, respiration, blood pressure, and electrocardiogram data were obtained from human subjects and fit to a nonlinear mathematical model with the purpose of determining if and how the model's parameters change when the subject experiences different autonomic stimuli, such as metronomic breathing and postural tilt. The times series of the data were analyzed to determine that the autonomic interventions indeed had an effect on the subjects' heart rate and blood pressure. The values of the parameters of both the analog circuit model and the forecasting model were then examined during each of the following six situations: free breathing and supine, breathing at 0.1 Hz and supine, breathing at 0.2 Hz and supine, free breathing and tilted, breathing at 0.1 Hz and tilted, and breathing at 0.1 Hz and tilted. It was determined that the analog circuit model parameters change with autonomic intervention, which is what should be true for a model where each circuit element is selected to represent some element of the physiology. Finally, most of the parameters of the forecasting algorithm were found to be independent of autonomic intervention, which is also encouraging, since the different interventions can then be simulated using constant parameters.

Chapter 6

Future Work

There are vast amounts of potential for further investigation both with regard to the data set acquired for this thesis and with regard to the nonlinear mathematical model in general.

First, although data were taken from old and young subjects, there was not space in this paper to consider the aspects of the cardiovascular system that change with age. Qualitatively, it appears that the initial fit to the analog circuit model is much more difficult to obtain for elderly subjects, possibly because as autonomic control deteriorates and as the arteries become less compliant with age, the blood pressure waveform takes on a slightly different morphology that is harder to fit. From a physiological vantage point, because the autonomic control in the elderly is less active, and the model is based on autonomic control, perhaps the model is not as relevant to old people as it is to young people.

Secondly, the oscillations in the blood pressure waveform result partly from the force of the systolic ejection of blood from the heart. However, other features of the blood pressure waveform are due to a reflected pressure/velocity wave traveling in the arterial system. During tilt and other interventions, the magnitude and speed of propogation of this reflected wave will change because of vasoconstriction. In a few of the records processed in this study, the fit obtained from the circuit model was not as good when the magnitude and placement of this reflected wave changed. If there were a preprocessing stage to subtract out the reflected wave from the original blood

pressure waveform, then perhaps the fitting program, *bpshape_wk4*, would be able to process an even wider variety of beats than it does now.

Chapter 7

Acknowledgements

Thanks to Dr. Carolyn Connelly of the Hebrew Rehabilitation Center for Aged for helping me acquire the data;
Wendell Ocasio for use of the program *bpshape_wk4*;
George Moody for use of the computer programs WAVE and aristotle;
Paul Albrecht for use of the plotting program plt;
Freeland K. Abbott, III, for solving my postscript problem;
and David Rigney, Wendell Ocasio, Larry Lubowsky, and Lewis Lipsitz for greatly appreciated advice and encouragement.
I would also like to dedicate this thesis to my parents, Paul and Prabha Tedrow, and my brother, John R. Tedrow.

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physiological model that predicts chaos, oscillations, and low-frequency fluctuations. To be published in 1993.

Appendix A

Patient Release Forms

HARVARD MEDICAL SCHOOL

Jeanne Y. Wei, M.D., Ph.D., *Director*
Jerome L. Avorn, M.D.
Dariush Elahi, Ph.D.
Lewis A. Lipsitz, M.D.
Kenneth L. Minaker, M.D.
Neil M. Resnick, M.D.

Division on Aging

Claude D. Pepper
Geriatric Research and Training Center

HARVARD COOPERATIVE PROGRAM ON AGING

INFORMATION RELEASE FORM

I understand that information including my name, address, phone number and baseline medical history will be made available to medical investigators with the Harvard Medical School, Division on Aging, and whose studies have been approved by the Institutional Review Board of Harvard University. This information will be used in order to determine my eligibility to participate in studies. I understand that I may refuse to participate or terminate my participation in any study without jeopardizing my membership in the Cooperative. In addition, I understand that I may withdraw from the Cooperative at any time.

These studies are being performed to advance medical knowledge in general and are not specifically intended to diagnose any illness that I may have. I understand that my personal physician may be contacted by the study team for additional information. I authorize the release of medical records to the Harvard Cooperative Program on Aging. If I wish, the information obtained about me during the course of these studies may be sent to my physician.

Signed _____

Date _____

Return this form to:

Roberta Rosenberg, Coordinator
Harvard Cooperative Program on Aging
c/o HRCA
1200 Centre Street
Roslindale, MA 02131

Kidney/Bladder Problems such as:

Urinary Tract Infections (Bladder) 1

Do you have any problems with losing your urine when you don't expect to or mean to? How often does this occur?
1=no 2=less than daily 3= at least once daily 4= no control at all 1

Bowel Incontinence (frequency) ____ 1

Constipation 1

Kidney Disease 1

How many times do you need to get up at night to pass your urine? 0

Musculoskeletal Problems such as:

Arthritis 1

Osteoporosis 1

Have you ever fractured or broken your
- hip 1
- ankle 1
- wrist 1

Do you routinely use a
- cane 1
- walker 1
- wheelchair 1
- other 1

Bleeding Disorder 1

Anemia 1

Surgical History

Have you had any hospitalizations or operations in the past year? 1
1=no 2=yes
Comment _____
_____

Have you had any hospitalizations or operations over 1 year ago? 1
1=no 2=yes
Comment _____
_____

When was your last menstrual cycle? age 48 ish

OVERALL COMMENTS:

Did you ever or do you have: (1=no 2=yes)

Sinus Infections	1
Neurologic Problems such as:	
Headaches used to get migraines	2
Dizziness or vertigo (feeling of movement)	1
Fainting spells/blackouts	1
Seizures	1
Strokes	1
Parkinson's Disease	1
Falls	1
Memory Loss	1
Respiratory Problems such as:	
Bronchitis	1
Emphysema	1
Chronic Pulmonary Disease	1
Asthma	1
Congestive heart failure or fluid in lungs	1
Shortness of breath	1
Heart or Circulatory Problems such as:	
Abnormal heart rhythms (palpitations)	1
Rheumatic Fever	1
Heart Murmurs	1
Angina or chest pain	1
Chest pressure	1
Heart Attack	1
High Blood Pressure	1
Pain in calves with walking	1
Pacemaker	1
Puffy ankles (edema)	1
Arythmia	1
Gastro-Intestinal/Stomach or Intestine Problems:	
Bleeding	1
Hepatitis	1
Ulcers	1
Liver Disease (cirrhosis)	1
Stomach problems (nausea)	1
Thyroid Problem	1
Diabetes (Type 1, Type 2)	1
How long have you had it?	
Do you monitor your blood sugar?	
Cancer (Type)	1

Have you had any acute illnesses within the last month? 1
1=no 2=yes
(Explain) _____

Are you allergic to:
Medications 1=no 2=yes 1
Which ones?

Foods 1

Other 1
(Explain) _____

Do you drink wine or beer or other alcoholic beverages 1
1=no 2=yes
(Explain how often, # and type of drinks)_____
_____

Do you smoke cigarettes 1=no 2=yes 1
(Explain how often, # and type/packs per day)_____

Do you drink caffeinated beverages? 1= no 2= yes 2
(Quantity, type) coffee ≈ 1-2 a day

General: 1= good 2= fair 3= poor (Please comment)
Oral/Dental Status 2 caps bothering her
Nutritional Status 1
Skin Condition 1
Vision 1 glasses
Hearing 1

Do you take: Drug	How Often	Response (1=no 2=yes)
Aspirin		1
Tylenol	as needed	2
Cold Remedies		1
Nasal Sprays		1
Laxatives		1
Allergy Meds		1
Stimulants		1
Depressants		1
Others		1
Prescribed drugs		
Coumadin		1
Heart Pills		1
Water Pills(diuretic)		1
Blood Pressure Pills		1
Arthritis Meds		1
Sugar Pills		1
Antibiotics		1
Steroids i.e. Prednizone		1
Seizure meds. i.e. Dilantin		1
Other		1

Do you have your prescription bottles handy? (Record name of medication, dose and frequency.)

What is your usual mode of transportation? (private vehicle, taxi, bus)

(*Study Status)
(Recruited to what study?)
G.I. WEIGHT

(Study Participation History)
Date *Study Code Refused to Partic. PI

(Contact for Study)

(Autopsy Approval) 1=no 2=yes 3= not discussed ___3___

HEALTH INFORMATION (self-reported)

Height 5'2½" Weight 140

General Health
1= excellent 2= good 3= fair 4= poor

1

Activity Level: I am going to read you the description of several categories of activities. Please tell me which category best describes what you normally do.

1. Almost no physical activity.

2. Mostly sitting, sometimes a walk, easy gardening or similar tasks, sometimes light household activities such as heating up food, dusting, or clearing away.

3. Light physical exercise for about 2-4 hours a week, e.g. walks, fishing, dancing, ordinary gardening, including walks to and from shops. Main responsibility for light domestic work such as cooking, dusting, clearing away, and making beds. Performs or takes part in weekly cleaning.

4. Moderate exercise 1-2 hours a week, e.g. jogging, swimming, gymnastics, heavier gardening, home repair, OR easier physical activities more than 4 hours a week. Responsible for all domestic activities, easy as well as heavy.

5. Moderate exercise at least 3 hours a week, e.g. tennis, swimming, jogging, etc.

6. Hard or very hard exercise regularly and several times a week, during which physical exertion is great, e.g. jogging, skiing.

3

(scale from Aging journal, Vol. 2, N. 2)

Describe activities (minutes per day) _____
Walks, gardening, moving objects

BETH ISRAEL HOSPITAL, BOSTON
HARVARD MEDICAL SCHOOL

INFORMED CONSENT FORM
VOLUNTEERS

Subject's name: _____

Title of research protocol: Syncope and blood pressure homeostasis in the elderly

Principal investigator's name: Lewis Lipsitz, M.D.

Research protocol #: 82-006-001-097

1. PURPOSE OF STUDY

I understand that I will participate in a study designed to determine the changes in blood pressure and pulse in response to standing up.

2. PROCEDURE

The protocol consists of 1 part which requires one admission to the Beth Israel Hospital Clinical Research Center (CRC).

a) Admission and EKG Studies - Prior to or during the admission I will have a physical examination and EKG performed~~, and baseline blood tests drawn.~~

b) Tilt Study - After voiding, I will rest quietly in a special tilting bed for 35 minutes until the tilt study is performed. For this, the bed will be moved from a horizontal position to almost standing (60°) while blood pressure and EKG are recorded. After 15 minutes, I will return to a horizontal position. After this, I can resume my usual activity.

3. RISKS AND DISCOMFORTS

The risks of this study include:

a) Tilt study - I may feel weak, dizzy, or faint during the tilt study, but if this happens, I will be able to lie back down again, immediately.

b) ~~The discomfort of having a baseline blood sample drawn. In total, 15cc or 1 tablespoon of blood will be drawn.~~

All precautions will be taken to assure that these studies are safe and comfortable. An experienced doctor and nurse will be present at all times and my heart will be monitored during the studies by an electrocardiogram. I may also discontinue my participation any time.

BETH ISRAEL HOSPITAL, BOSTON
HARVARD MEDICAL SCHOOL

INFORMED CONSENT FORM
VOLUNTEERS

RESEARCH PROTOCOL # 82-006-001-097

In the event physical injury occurs to me resulting from the research procedures, medical treatment will be available, if appropriate, at Beth Israel Hospital. However, no special arrangements have been made for compensation or for payment for treatment solely because of my participation in this research study.

I hereby agree to become a subject in this investigation.

Subject's signature

I have witnessed the explanations made by the Investigator and heard the responses to questions. I have no conflicting interest in the activity proposed.

Witness

For any questions regarding the rights of a research subject, or information regarding treatment of research-related injuries, please contact: Mr. James Lyddy, Director, Office of Science and Technology, Beth Israel Hospital, 735-4585.

CONSRYAN

64G

...EFITS

...e will be no direct benefit to me from these studies. The studies will help ...ctors learn why many elderly people faint.

5. ALTERNATIVE PROCEDURES

Not applicable.

6. COST/PAYMENT

I will receive a payment of $25 for participation in each of the studies.

7. CONFIDENTIALITY

Although I will be addressed by name, all the information collected will be assigned a number to assure confidentiality. Only the investigators will know which number refers to me.

A. I have fully explained to the subject, _____ _____, the nature and purpose of the procedures described above and such risks as are involved in its performance. I have asked the subject if any questions have arisen regarding the procedures and have answered these questions to the best of my ability.

Investigator's Signature

B. I have been fully informed about the above procedures, with its possible benefits, and risks and consequences. I recognize that I am free to ask any questions. I understand that participation in this study is voluntary, and I am free to withdraw from this study at any time without affecting my care or my relationship to Beth Israel Hospital, or Hebrew Rehabilitation Center for Aged.

I will receive a copy of this consent form. Beth Israel Hospital maintains an "Institutional Assurance of Compliance", a document which explains how the hospital provides for protection of human subjects, a copy of which is available on request.

A:consryan

Appendix B

Analog Circuit Model Parameter Regressions

B.1 Subject my2

B.2 Subject my5

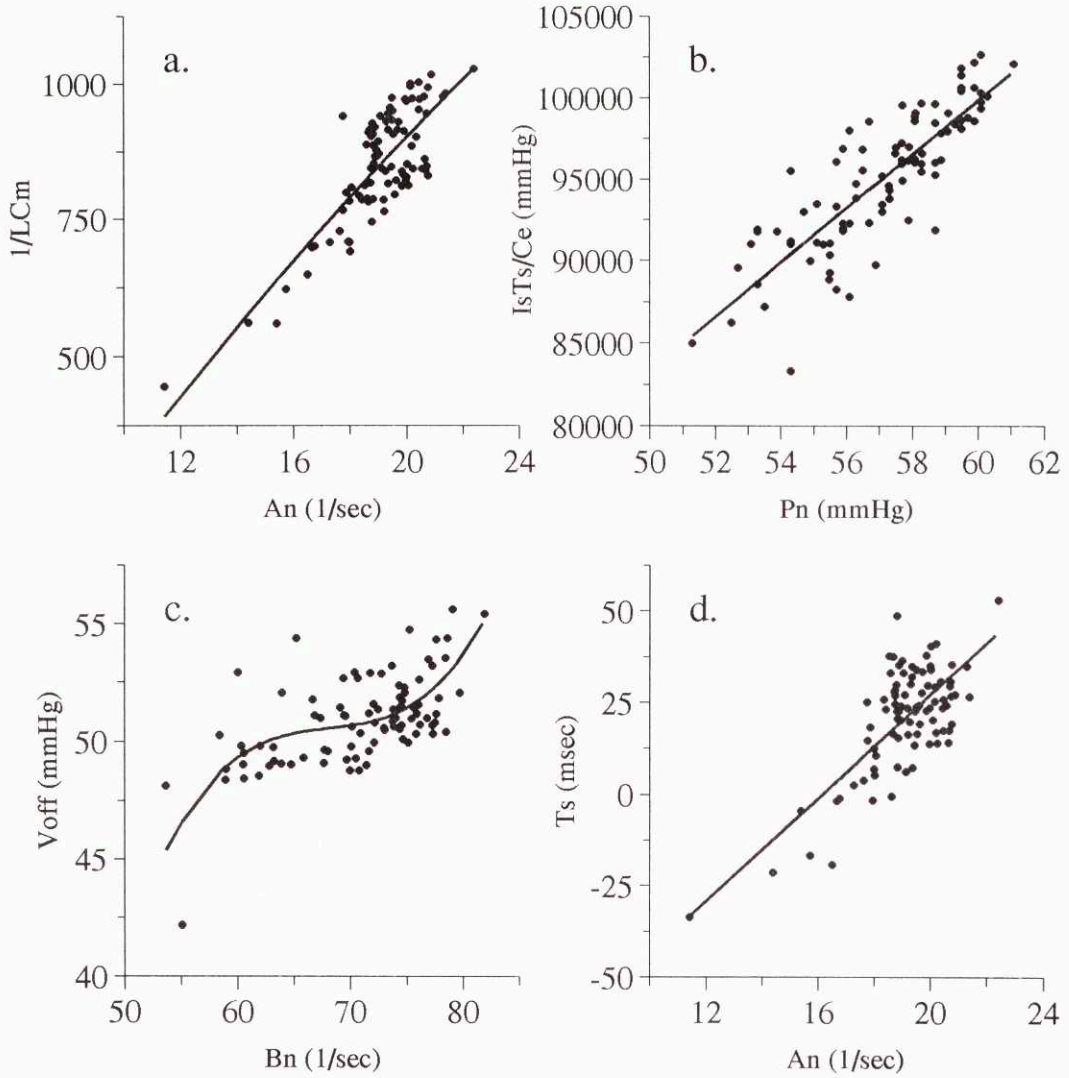

Figure B-1: Parameter Correlations for subject my2 while supine and breathing normally.

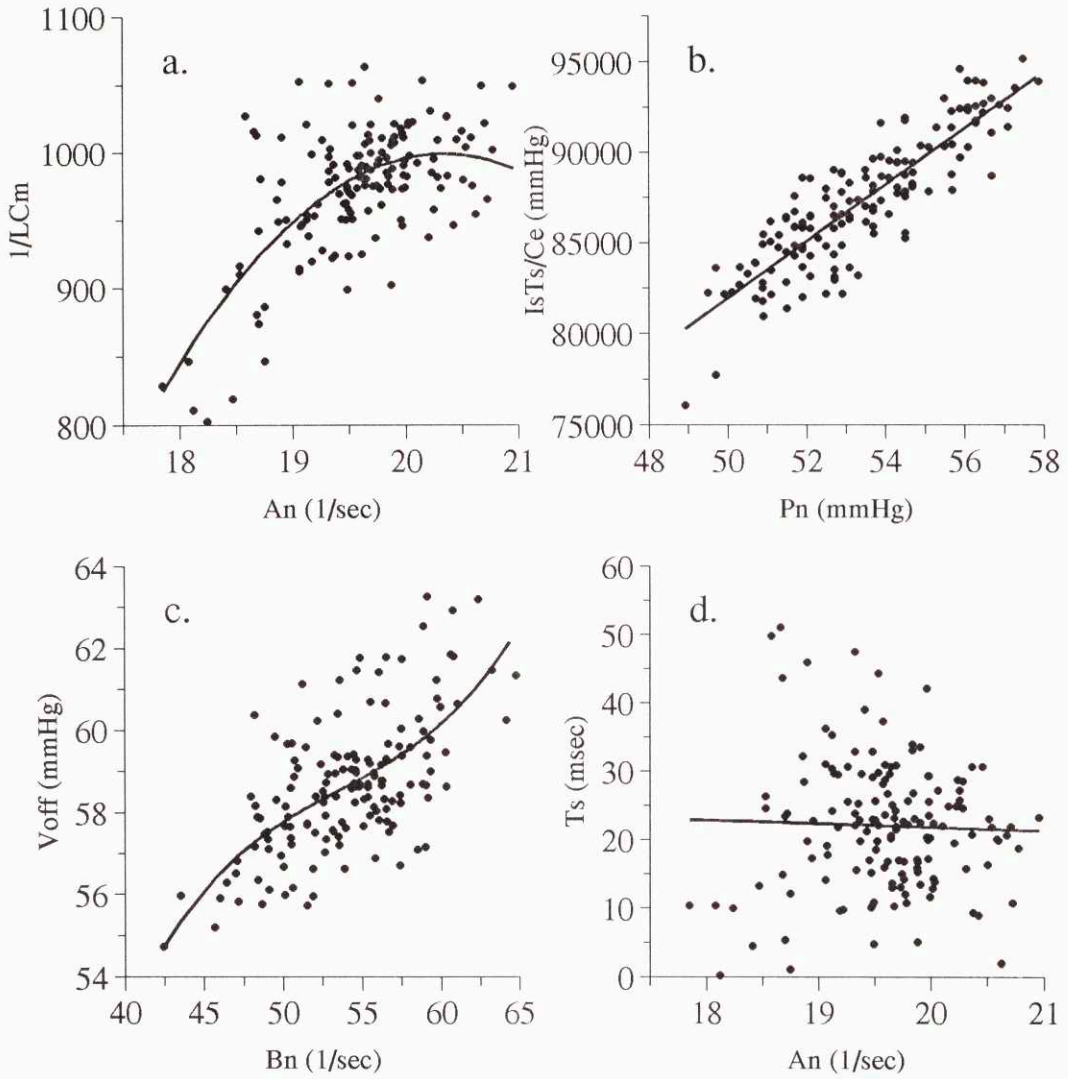

Figure B-2: Parameter Correlations for subject my2 while supine and breathing at four breaths per minute.

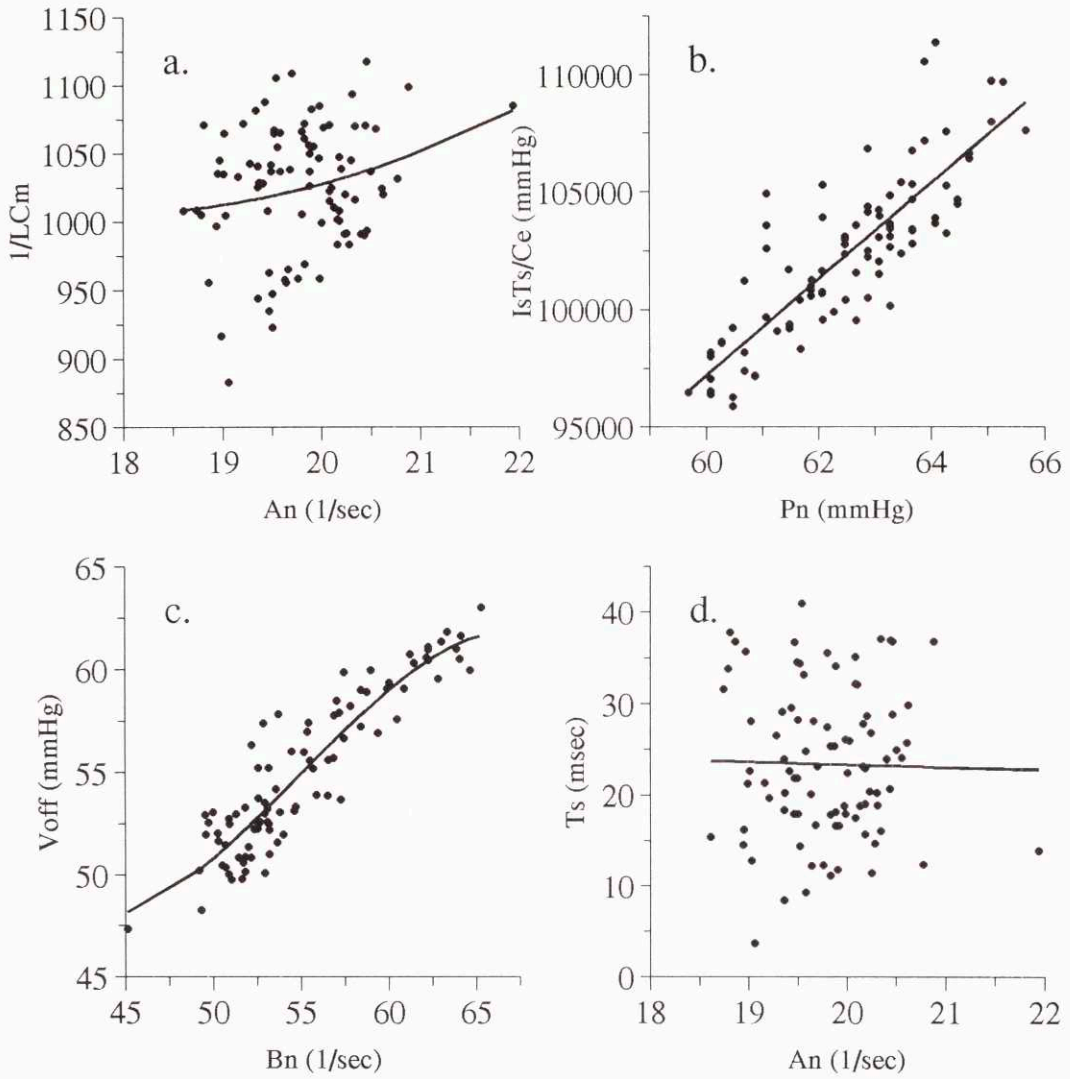

Figure B-3: Parameter Correlations for subject my2 while supine and breathing at six breaths per minute.

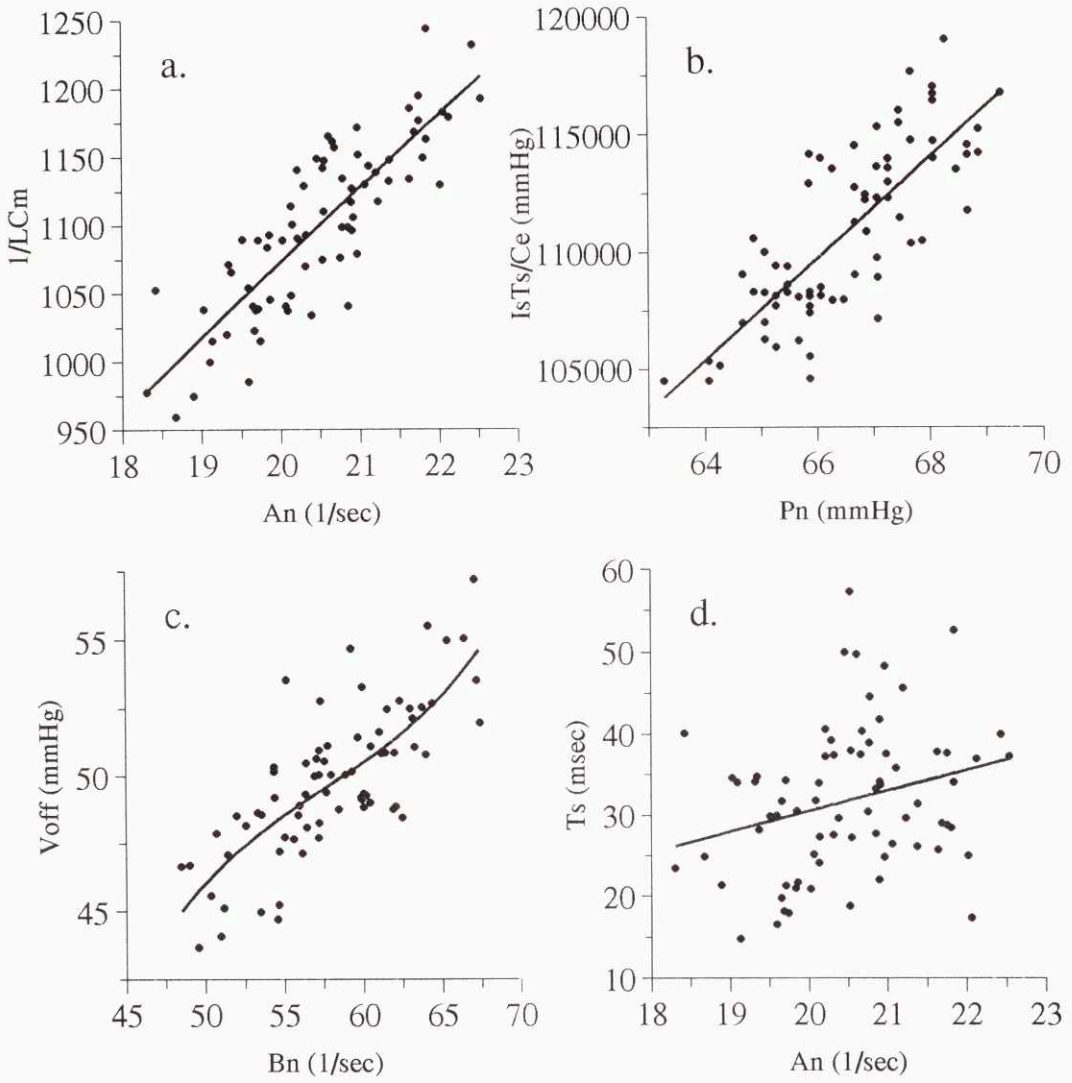

Figure B-4: Parameter Correlations for subject my2 while supine and breathing at eight breaths per minute.

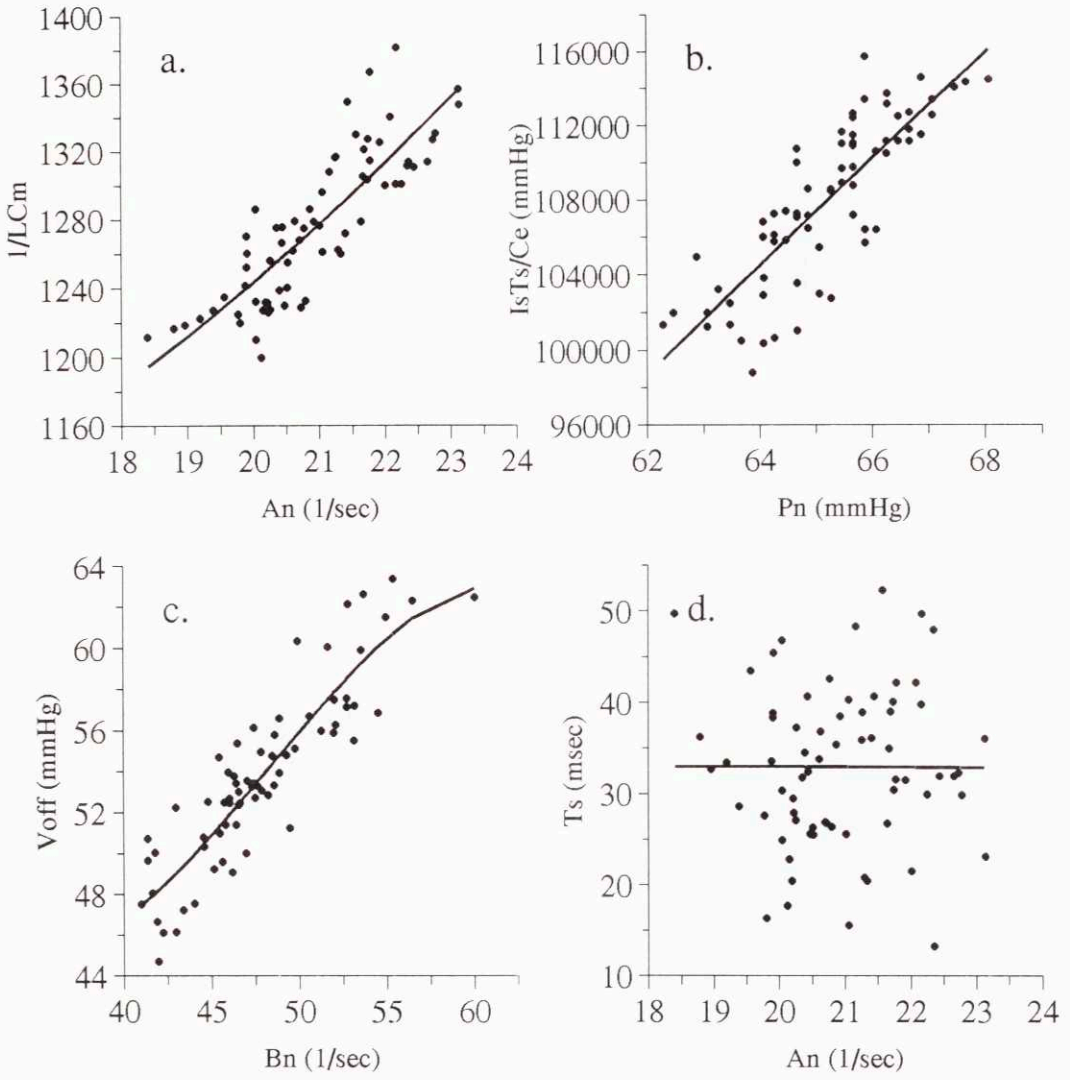

Figure B-5: Parameter Correlations for subject my2 while supine and breathing at twelve breaths per minute.

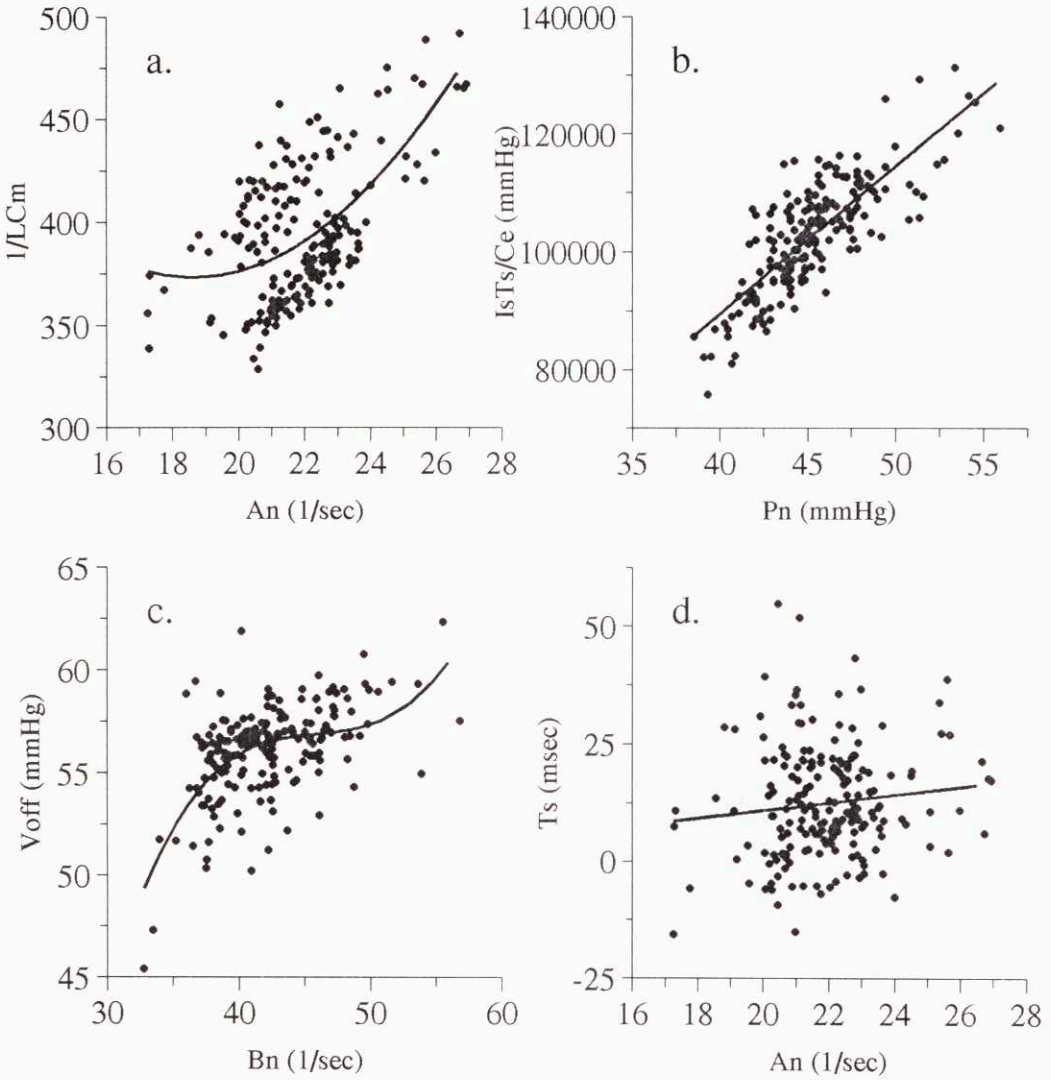

Figure B-6: Parameter Correlations for subject my5 while supine and breathing normally.

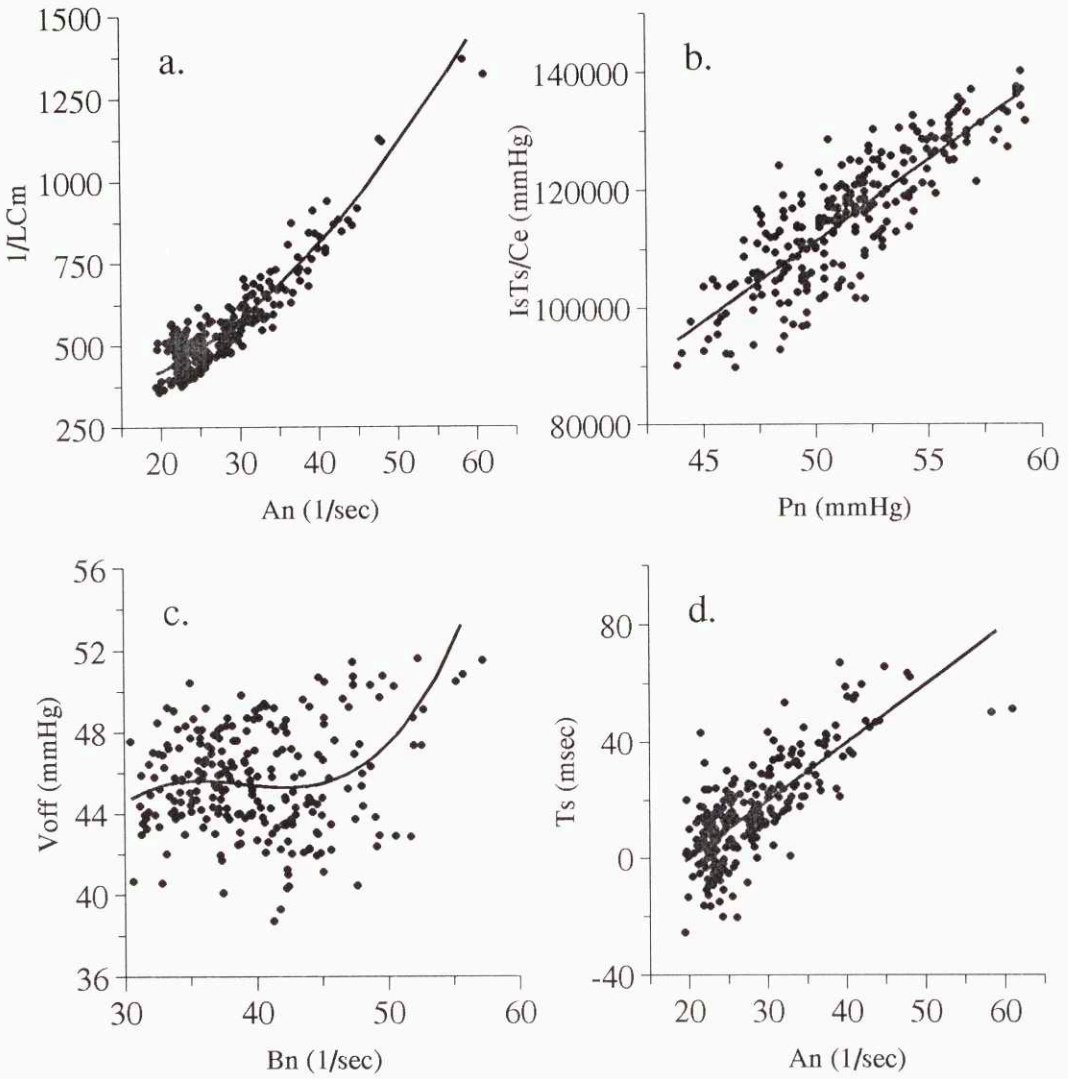

Figure B-7: Parameter Correlations for subject my5 while supine and breathing at six breaths per minute.

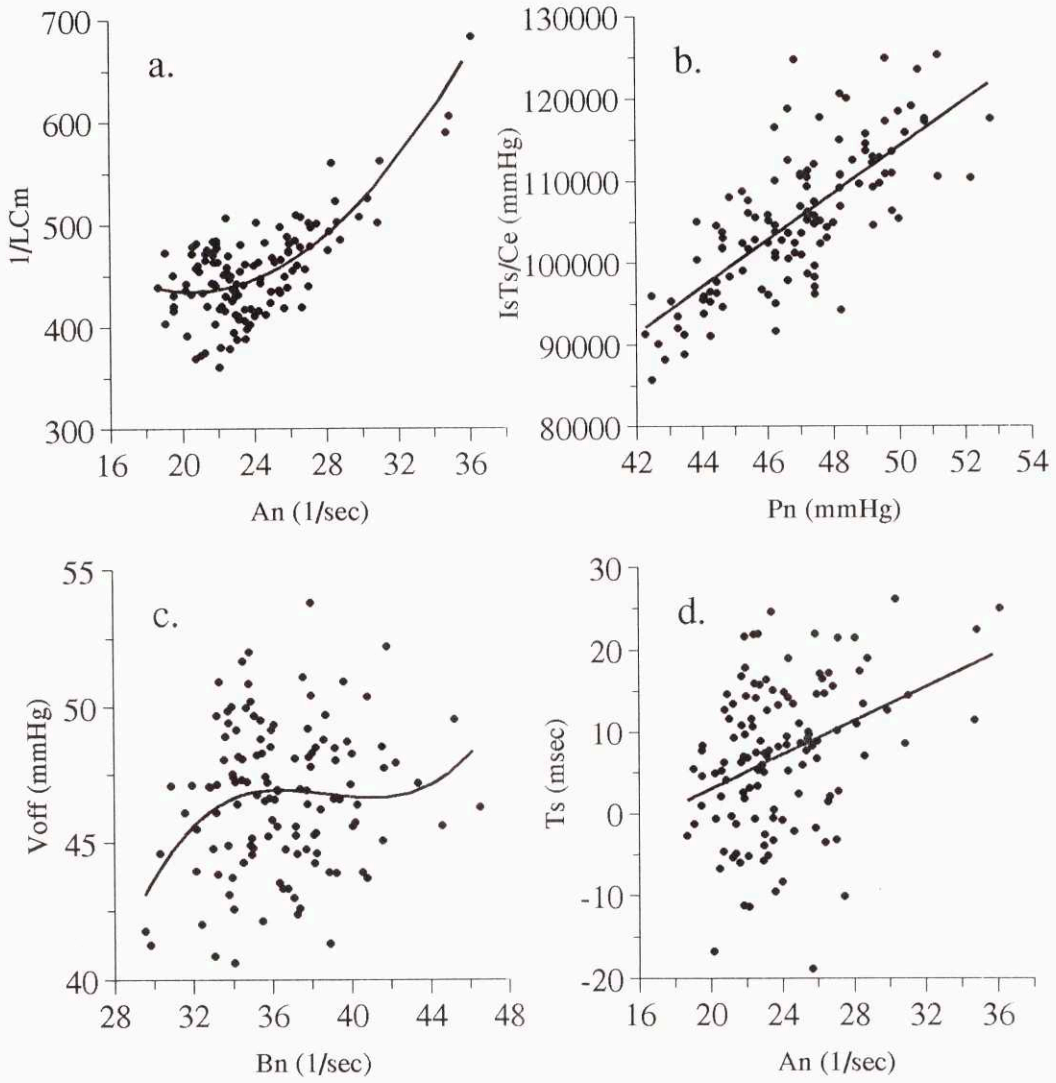

Figure B-8: Parameter Correlations for subject my5 while supine and breathing at twelve breaths per minute.

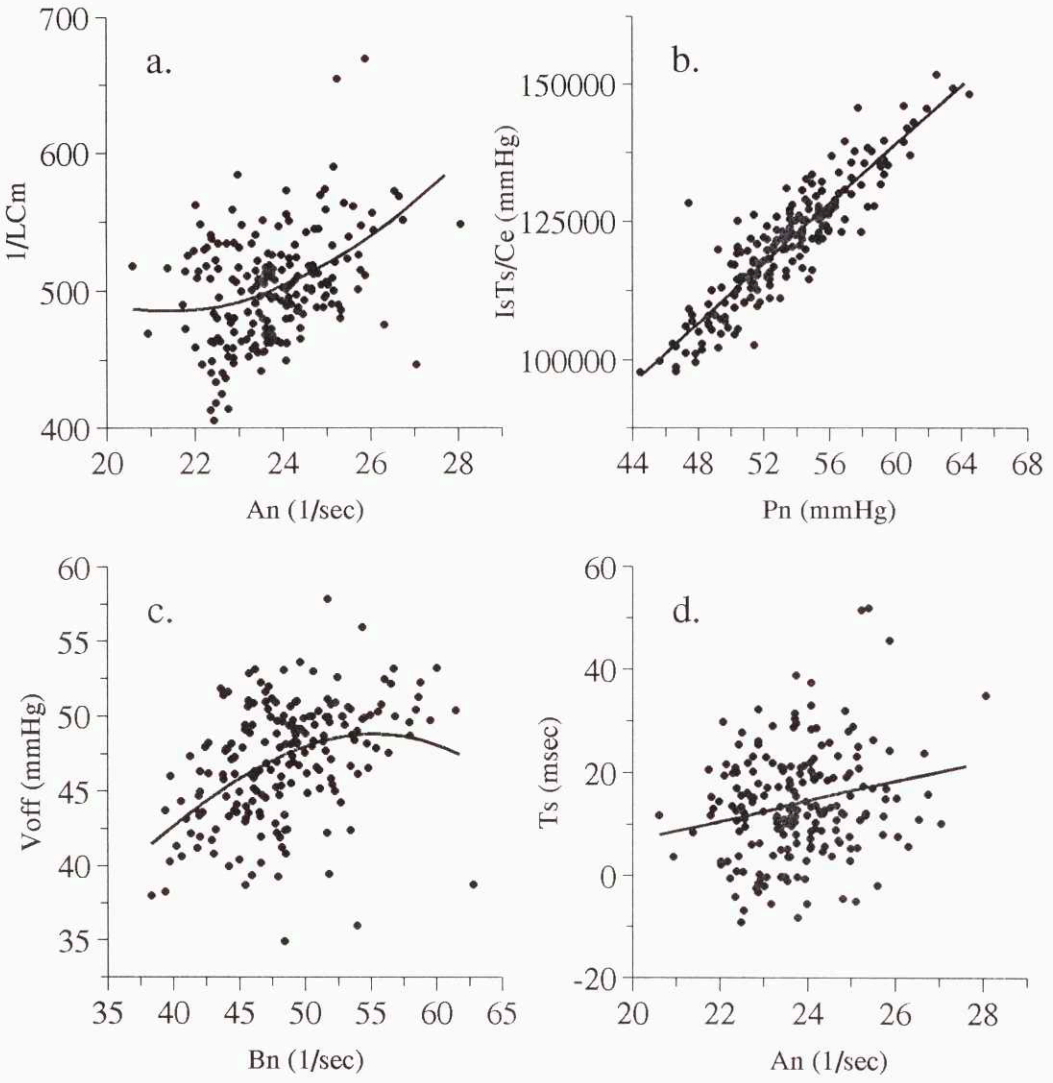

Figure B-9: Parameter Correlations for subject my5 while tilted and breathing normally.

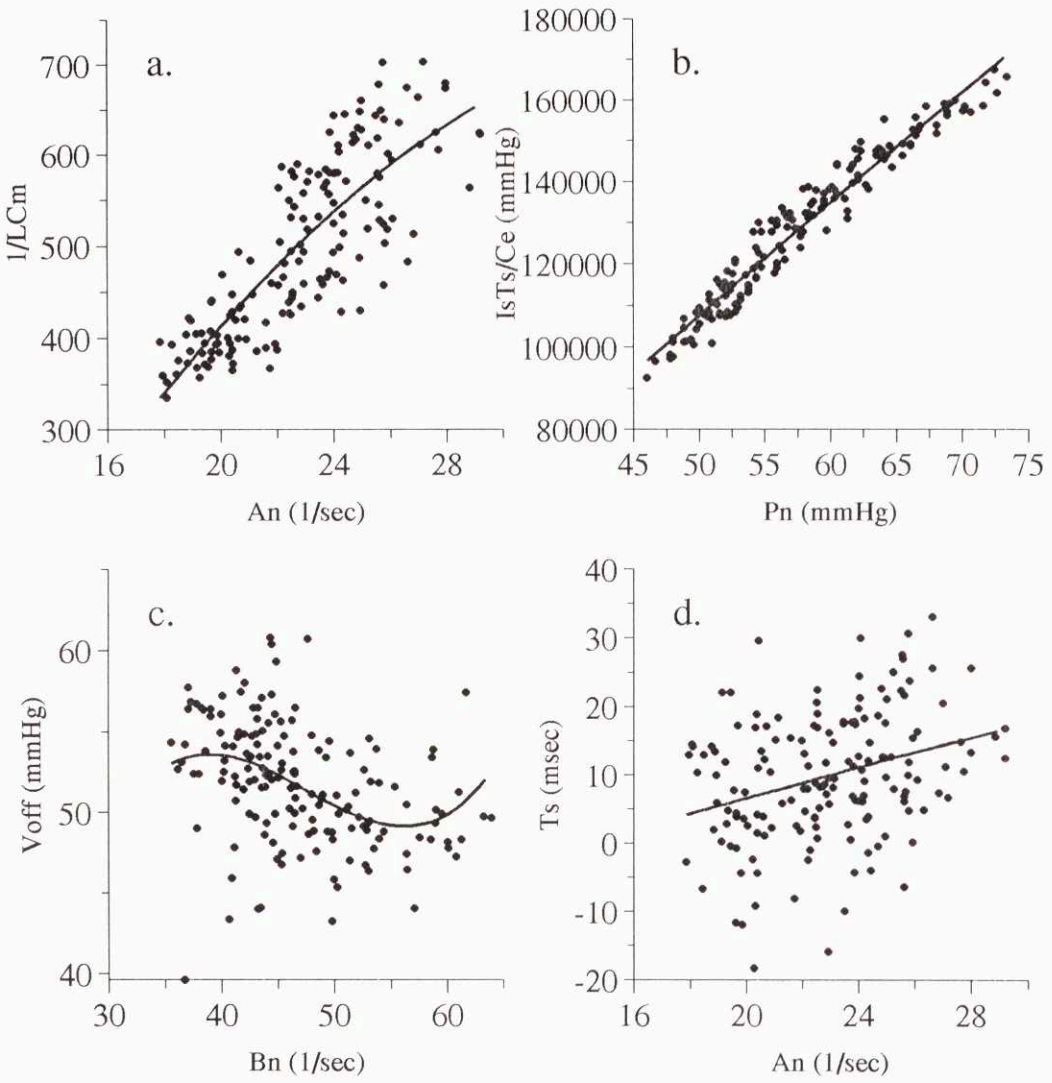

Figure B-10: Parameter Correlations for subject my5 while tilted and breathing at six breaths per minute.

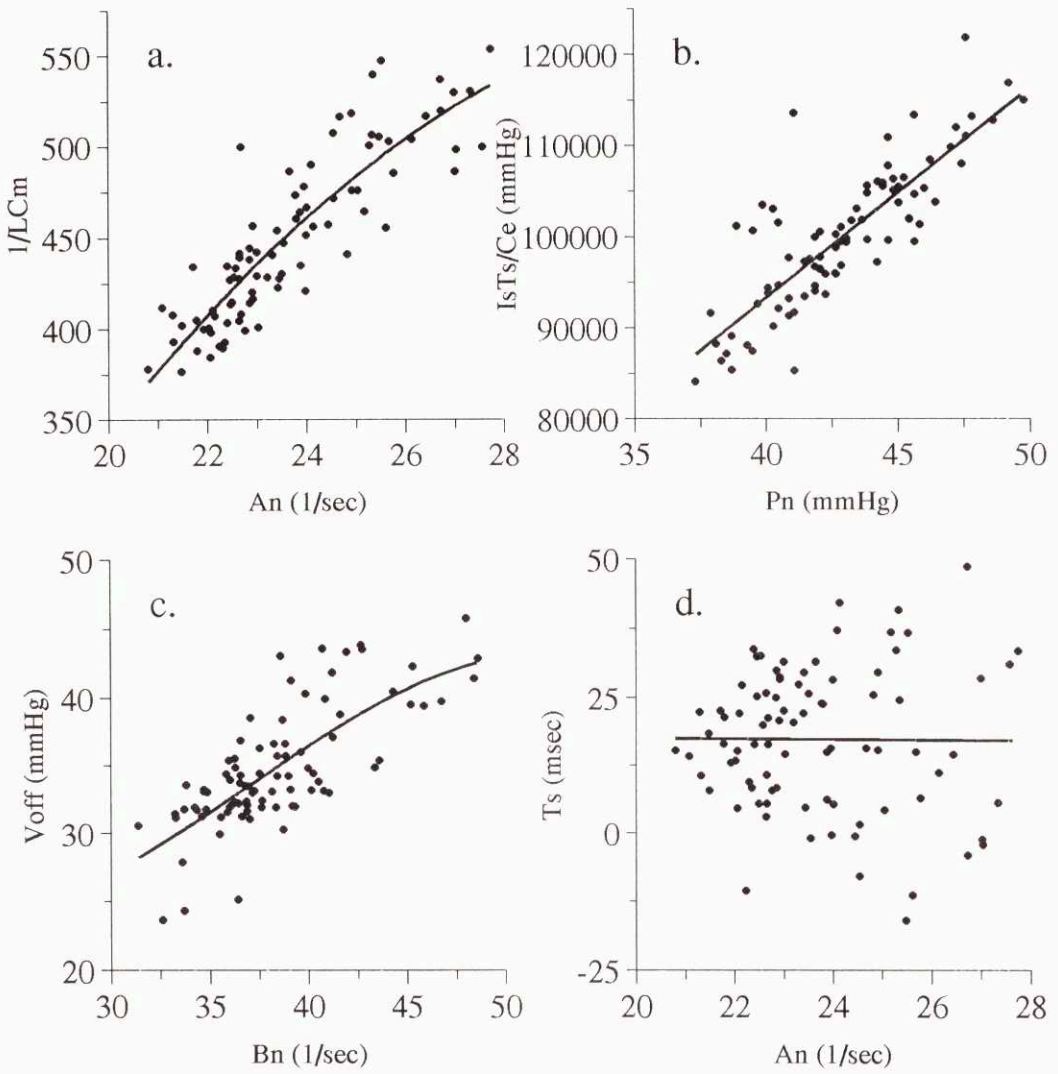

Figure B-11: Parameter Correlations for subject my5 while tilted and breathing at twelve breaths per minute.

Appendix C

Analog Circuit Model Parameter Regressions

C.1 Subject my2

C.2 Subject my5

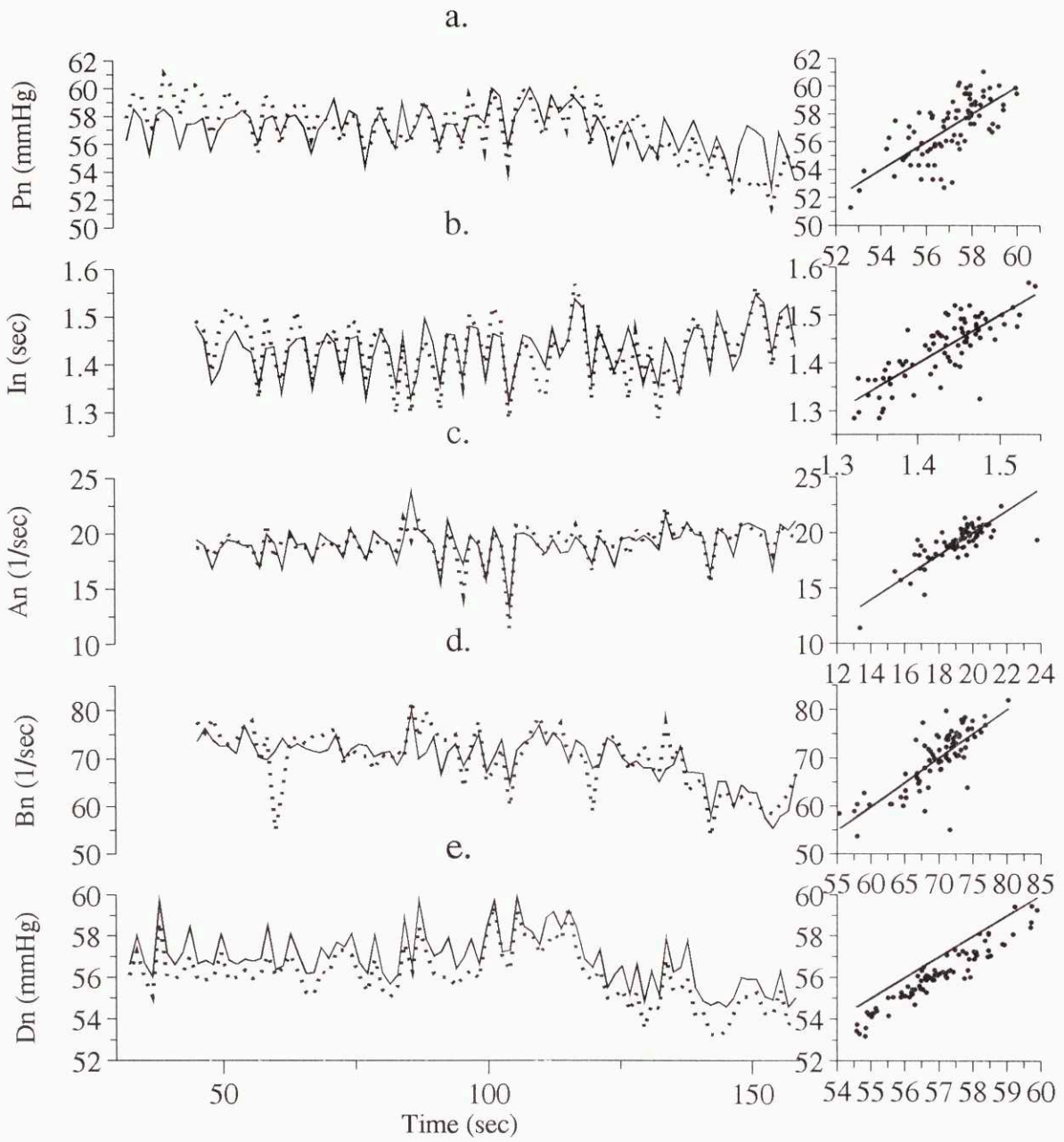

Figure C-1: Forecasted parameter time series correlations for subject my2 while supine and breathing normally.

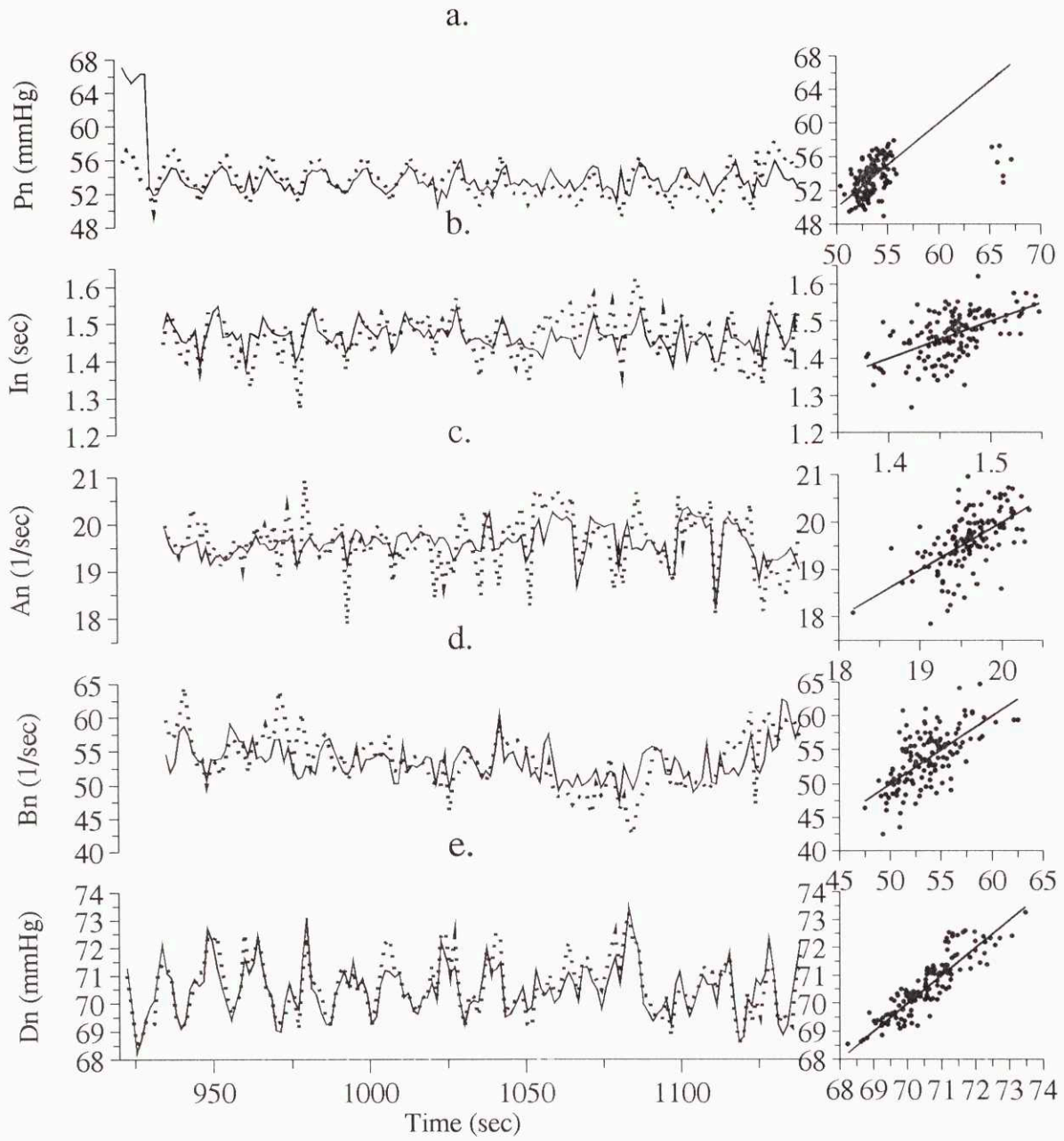

Figure C-2: Forecasted parameter time series correlations for subject my2 while supine and breathing at four breaths per minute.

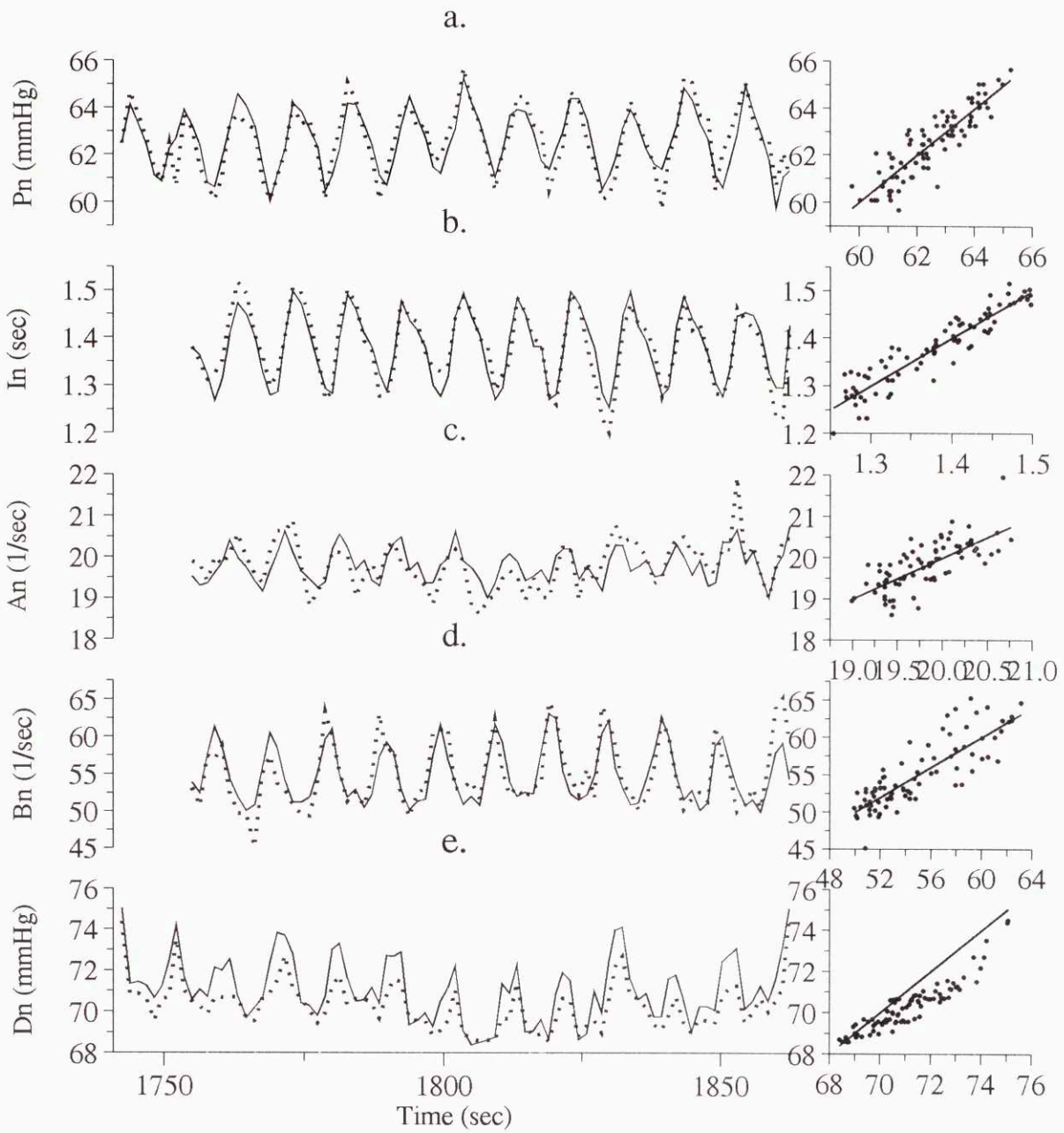

Figure C-3: Forecasted parameter time series correlations for subject my2 while supine and breathing at six breaths per minute.

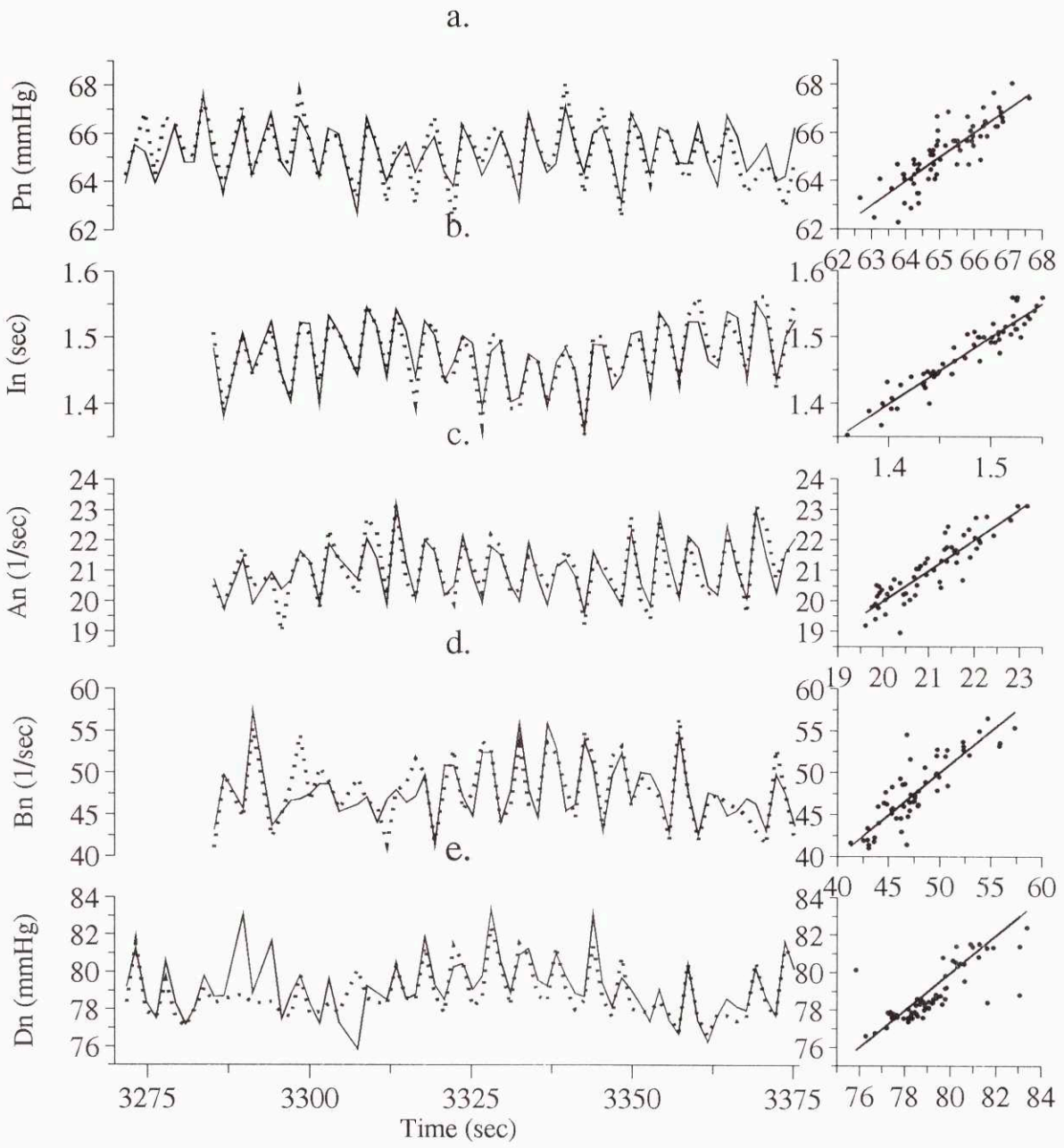

Figure C-4: Forecasted parameter time series correlations for subject my2 while supine and breathing at twelve breaths per minute.

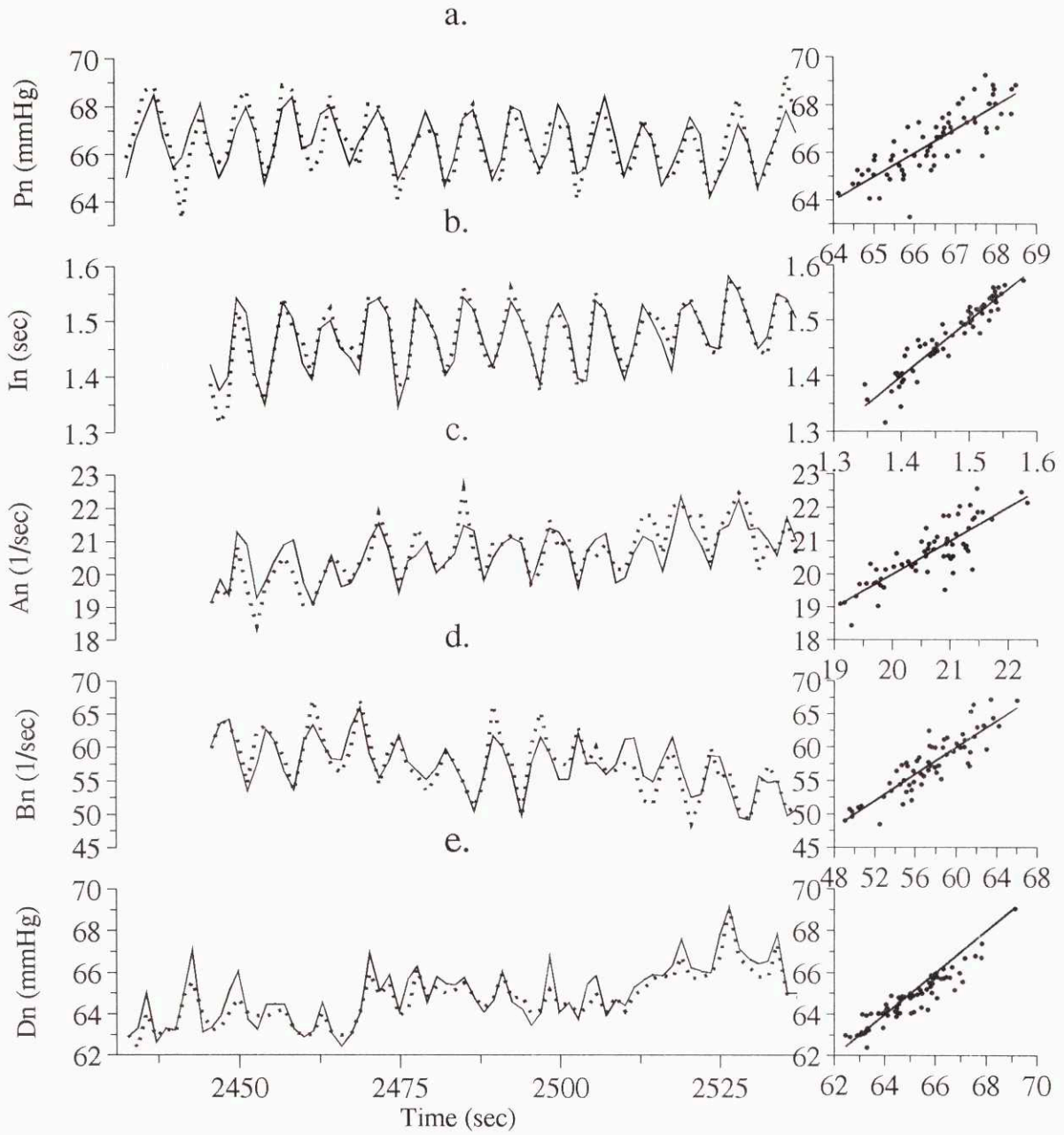

Figure C-5: Forecasted parameter time series correlations for subject my2 while supine and breathing at eight breaths per minute.

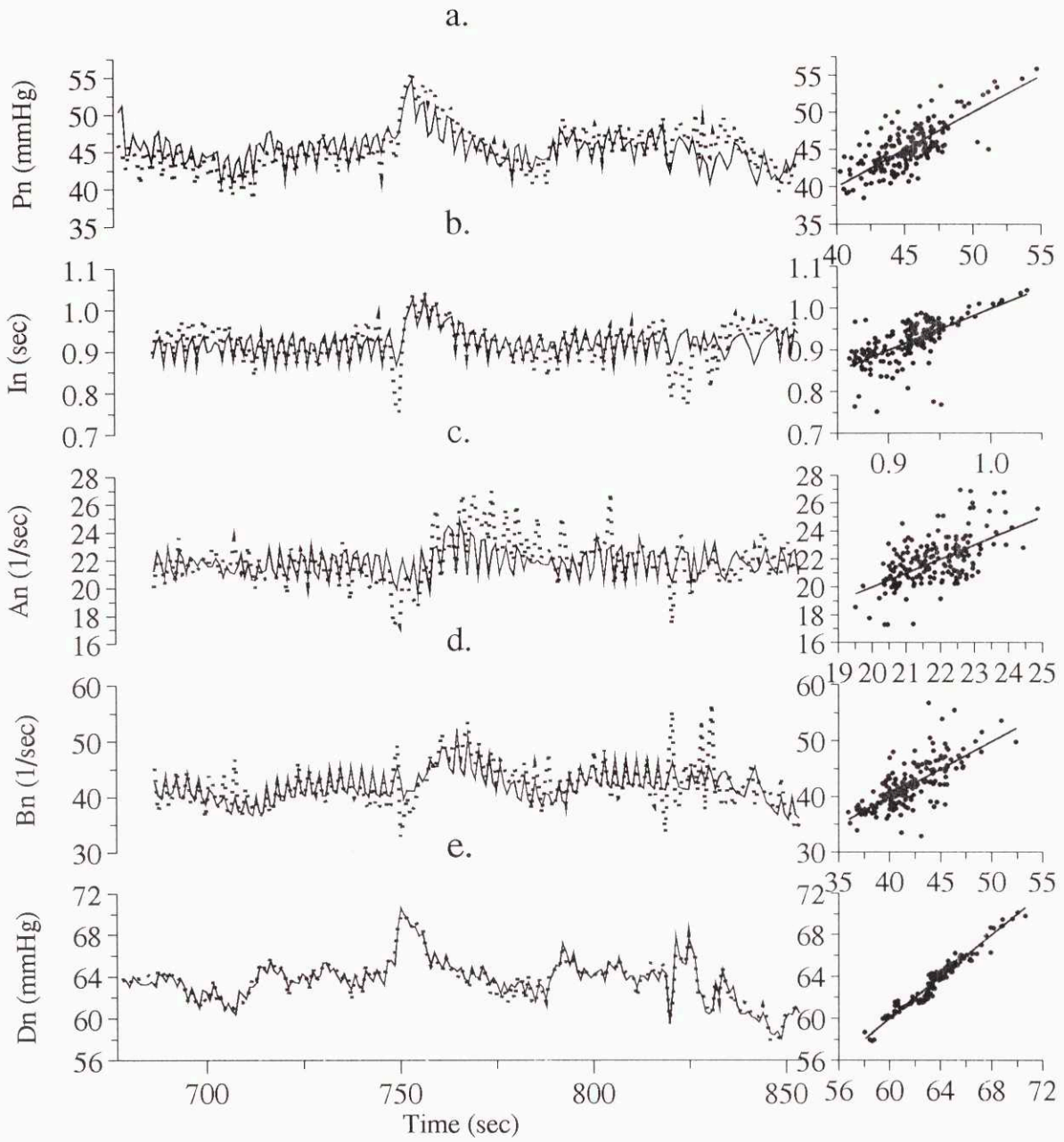

Figure C-6: Forecasted parameter time series correlations for subject my5 while supine and breathing normally.

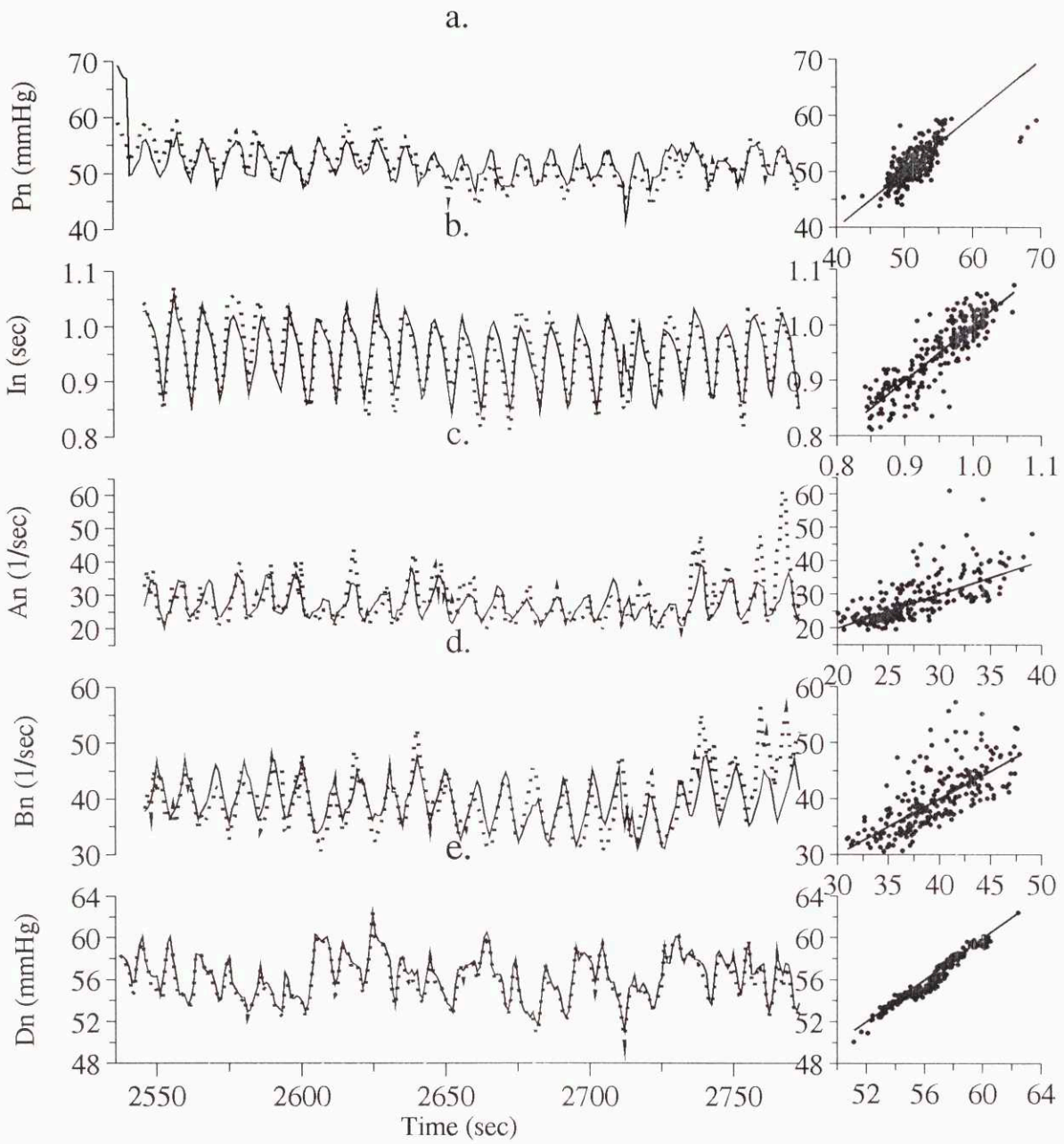

Figure C-7: Forecasted parameter time series correlations for subject my5 while supine and breathing at six breaths per minute.

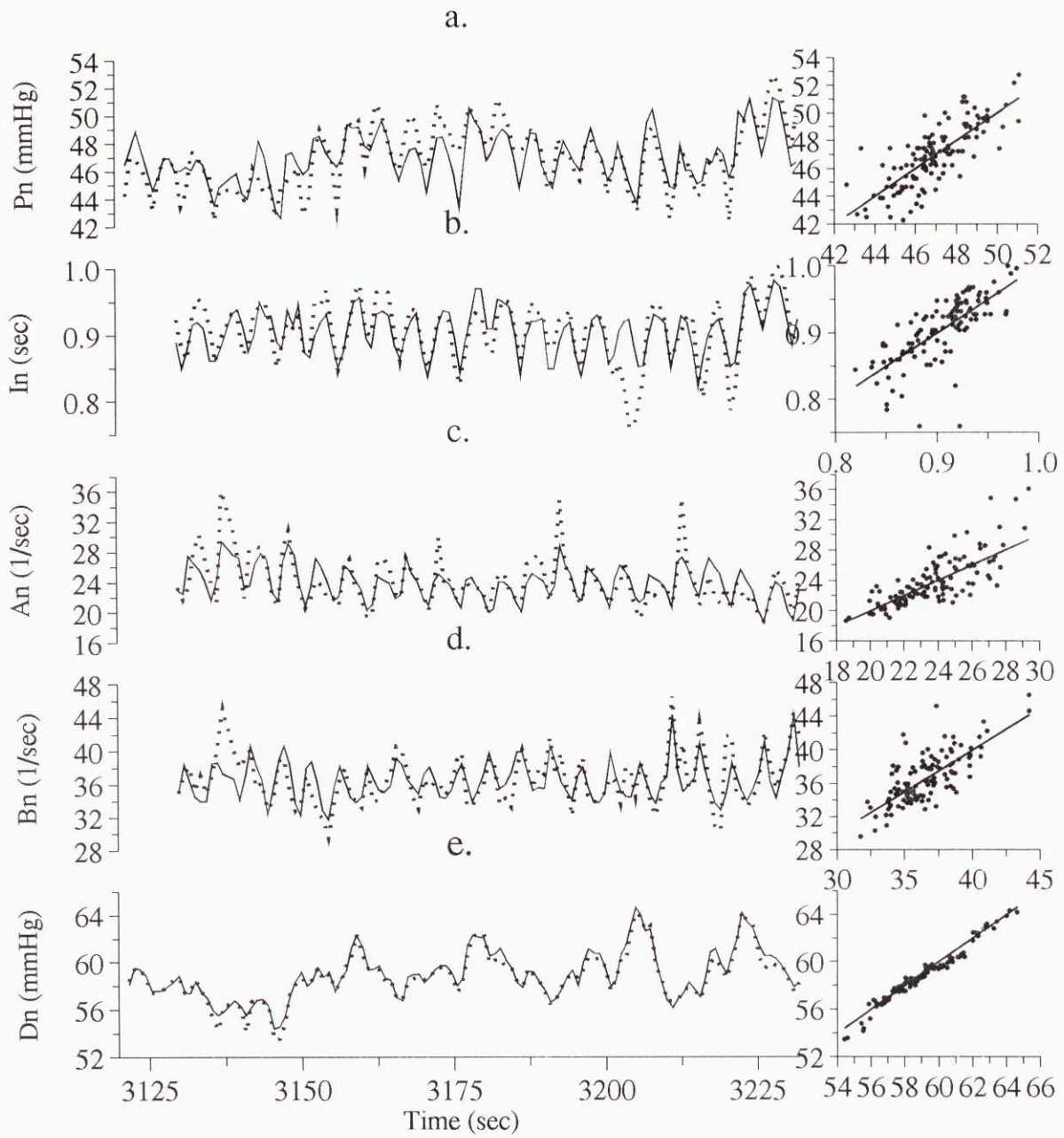

Figure C-8: Forecasted parameter time series correlations for subject my5 while supine and breathing at twelve breaths per minute.

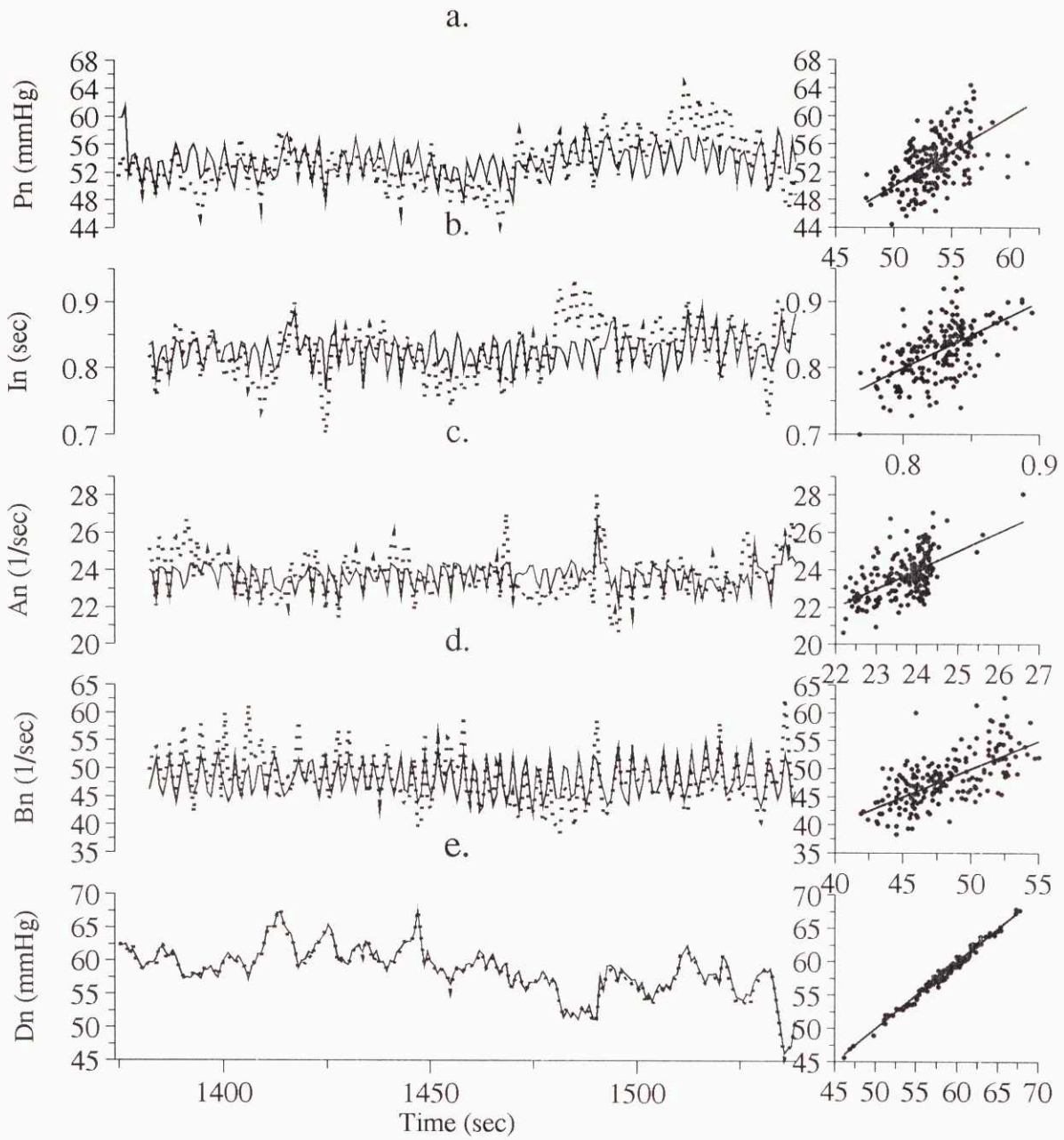

Figure C-9: Forecasted parameter time series correlations for subject my5 while tilted and breathing normally.

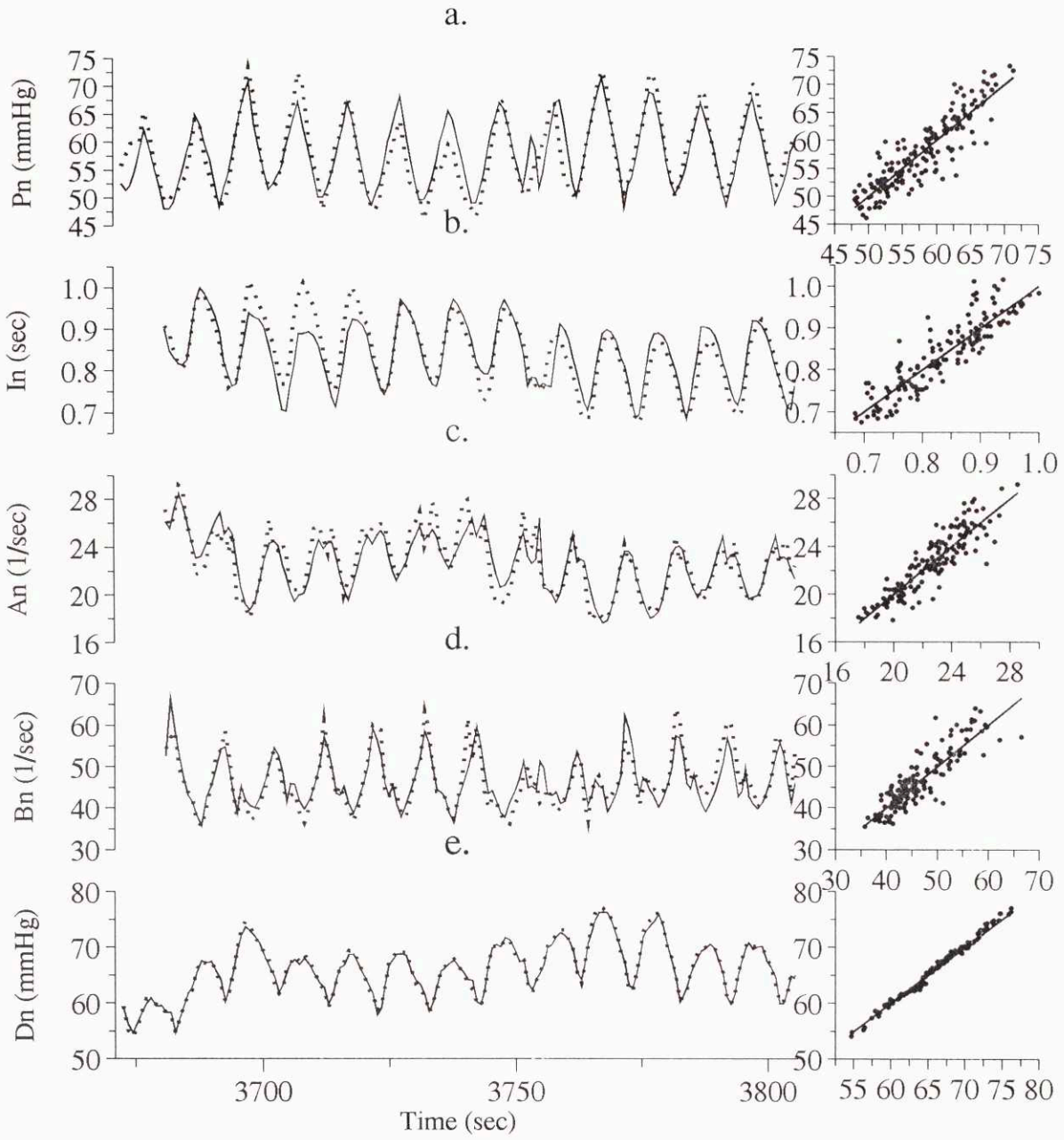

Figure C-10: Forecasted parameter time series correlations for subject my5 while tilted and breathing at six breaths per minute.

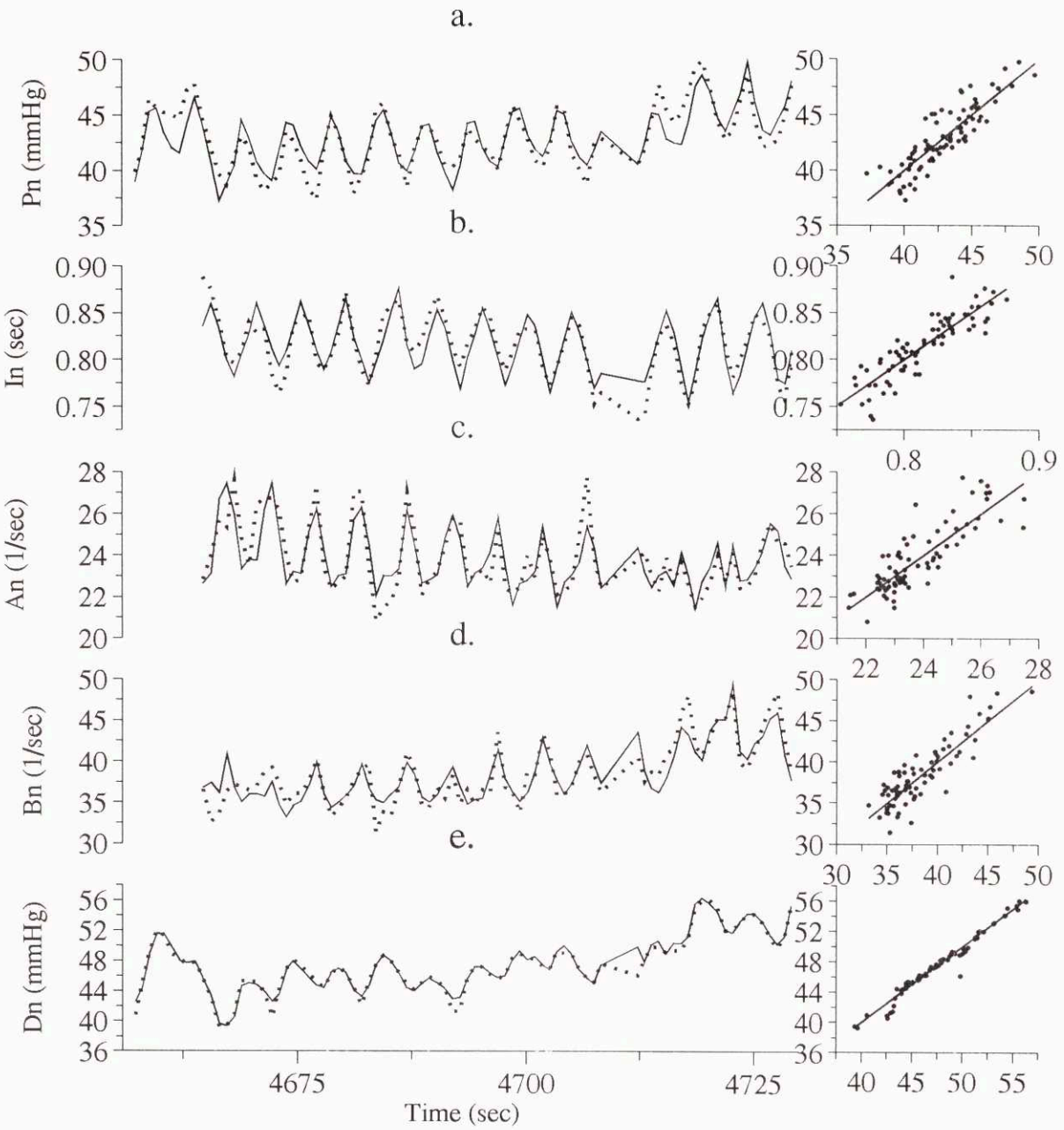

Figure C-11: Forecasted parameter time series correlations for subject my5 while tilted and breathing at twelve breaths per minute.

Appendix D

Volume II: The Statistical Output

from:

A Nonlinear Mathematical Model of Respiratory Sinus Arrhythmia

by

Usha B. Tedrow

Submitted in to the

Department of Electrical Engineering and Computer Science

May 15, 1993

In Partial Fulfillment of the Requirements for the Degree of

Bachelor of Science in Electrical Science and Engineering

my3

In-sample data for beats 1 through 200 (n = 195):

BEATNO	TIME	INT	DIAS	DIAS'	DIAS''	SYST	PP	P1	P2	P3	P4	P5	P6	RESP
AVG	644.031	1.076	48.71	-34.47	-233.85	97.93	49.21	24.10	47.97	713.90	93653.77	38.56	40.15	51.99
STDDEV	61.558	0.066	1.70	12.04	247.52	1.59	1.19	3.43	5.26	119.58	4558.77	2.32	19.64	29.64

Out-of-sample data for beats 201 through 325 (n = 124):

BEATNO	TIME	INT	DIAS	DIAS'	DIAS''	SYST	PP	P1	P2	P3	P4	P5	P6	RESP
AVG	820.782	1.051	47.59	-31.94	-197.08	95.91	48.32	24.77	49.84	739.80	92186.40	37.64	41.30	54.01
STDDEV	38.559	0.069	1.95	12.55	245.42	1.95	1.31	3.42	5.79	122.10	4436.30	2.48	19.48	28.16

Results of regression for p3 :
Regression equation: P3 = b0 + b1 (P1) + b2 (P1)^2
Standard error of regression = 34.452495
R squared = 0.917841 r = 0.958040

	COEF	STD ERROR	T-VALUE	P
B0	77.922491	90.256661	0.863343	0.389026
B1	16.992785	8.025577	2.117329	0.035519
B2	0.382393	0.175984	2.172888	0.031013

Results of regression for p4 :
Regression equation: P4 = b0 + b1 (PP)
Standard error of regression = 3060.900823
R squared = 0.551504 r = 0.742633

	COEF	STD ERROR	T-VALUE	P
B0	-46017.082470	9068.986124	-5.074115	0.000001
B1	2838.084155	184.226172	15.405434	0.000000

Results of regression for p5 :
Regression equation: P5 = b0 + b1 (P2) + b2 (P2)^2 + b3 (P2)^3
Standard error of regression = 1.549212
R squared = 0.562208 r = 0.749806

	COEF	STD ERROR	T-VALUE	P
B0	-113.481278	23.465401	-4.836111	0.000003
B1	8.801754	1.516421	5.804295	0.000000
B2	-0.171796	0.032325	-5.314576	0.000000
B3	0.001136	0.000227	4.997167	0.000001

Results of regression for p6 :
Regression equation: P6 = b0 + b1 (P1)
Standard error of regression = 11.942711
R squared = 0.632170 r = 0.795091

	COEF	STD ERROR	T-VALUE	P
B0	-72.861149	6.263750	-11.632194	0.000000
B1	4.688532	0.257433	18.212614	0.000000

Results of regression for pp :
Division #1, between 0.00 and 40.00 (n = 71).
Regression equation: PP = b0 + b1 (PHI) + b2 (I_n-1) + b3 (D)
Standard error of regression = 0.647733
R squared = 0.695591 r = 0.834021

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	48.238169	3.719837	12.967818	0.000000
B1	-0.060442	0.008021	-7.535619	0.000000
B2	7.207449	1.436360	5.017855	0.000004
B3	-0.121059	0.053333	-2.269887	0.026437

Results of regression for pp :
Division #2, between 40.00 and 70.00 (n = 61).
Regression equation: PP = b0 + b1 (PHI) + b2 (I_n-1) + b3 (D)
Standard error of regression = 0.922478
R squared = 0.463927 r = 0.681122

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	68.448644	5.513016	12.415825	0.000000
B1	0.060113	0.013752	4.371351	0.000053
B2	-4.406128	2.235182	-1.971241	0.053556
B3	-0.372532	0.078099	-4.770011	0.000013

Results of regression for pp :
Division #3, between 70.00 and 100.00 (n = 61).

my3

Regression equation: PP = b0 + b1 (PHI) + b2 (I_n-1) + b3 (D)
Standard error of regression = 0.850093
R squared = 0.008076 r = 0.089867

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	51.268912	5.645715	9.081031	0.000000
B1	-0.003012	0.012839	-0.234599	0.815360
B2	0.753371	2.452110	0.307234	0.759785
B3	-0.039222	0.084937	-0.461773	0.646002

Overall regression for pp:
R squared = 0.560565, r = 0.748709, p = 0.000000.

RESULTS OF REGRESSION FOR VARIABLE INT:
DIVISION #1, BETWEEN 0.00 AND 30.00 (n = 55).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.067135
R squared = 0.119234 r = 0.345303

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	1.095701			
B1	-0.003162	0.001181	-2.678598	0.009824

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.177579	0.808752	0.027774	1.693182	0.198918	0.000000
S'_(n-1)	0.134313	0.968213	0.015889	0.955308	0.332897	0.000000
S'_(n-2)	0.262339	0.999820	0.060616	3.843234	0.055315	0.482298
S'_(n-3)	0.155913	0.999312	0.021410	1.295551	0.260245	0.000000
S'_(n-4)	0.027648	0.966099	0.000673	0.039780	0.842689	0.000000
S'_(n-5)	0.121112	0.983170	0.012919	0.774098	0.383000	0.000000
S'_(n-6)	0.223063	0.989455	0.043824	2.722857	0.104949	0.000000
S'_(n-7)	0.281597	0.998121	0.069842	4.478563	0.039128	0.517702
S'_(n-8)	0.215721	0.971936	0.040987	2.537962	0.117199	0.000000
S'_(n-9)	0.204710	0.969021	0.036910	2.274440	0.137575	0.000000
S'_(n-10)	0.207609	0.998335	0.037962	2.342228	0.131971	0.000000

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.063535
R squared = 0.226038 r = 0.475435

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	1.097185			
B1	-0.003107	0.001118	-2.780337	0.007543
B2	-0.019982	0.007459	-2.678772	0.009869

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.110283	0.969840	0.009413	0.627921	0.431789	0.000000
(S'_(n-1))^2	0.198351	0.831621	0.030450	2.088664	0.154513	0.000000
(S'_(n-2))^2	0.077242	0.719535	0.004618	0.306113	0.582493	0.000000
(S'_(n-3))^2	0.086235	0.949262	0.005756	0.382105	0.539230	0.000000
(S'_(n-4))^2	0.079367	0.951807	0.004875	0.323291	0.572132	0.000000
(S'_(n-5))^2	0.032028	0.984698	0.000794	0.052368	0.819908	0.000000
(S'_(n-6))^2	0.002239	0.990522	0.000004	0.000256	0.987303	0.000000
(S'_(n-7))^2	0.095503	0.981072	0.007059	0.469443	0.496346	0.000000
(S'_(n-8))^2	0.152005	0.963664	0.017883	1.206251	0.277234	0.000000
(S'_(n-9))^2	0.217363	0.990626	0.036567	2.529075	0.117946	1.000000
(S'_(n-10))^2	0.107417	0.997187	0.008930	0.595332	0.443925	0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum[w_i, [S'_(i-n)]^2)
Standard error of regression = 0.062621
R squared = 0.262605 r = 0.512450

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	1.105283			
B1	-0.002966	0.001105	-2.683664	0.009795
B2	-0.020632	0.007363	-2.802023	0.007161
B3	-0.005247	0.003299	-1.590307	0.117946

RESULTS OF REGRESSION FOR VARIABLE INT:
DIVISION #2, BETWEEN 30.00 AND 50.00 (n = 34).

my3

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.057308
R squared = 0.156981 r = 0.396208

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.849311			
B1	0.004898	0.002006	2.441064	0.020357

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.002841	0.997266	0.000007	0.000250	0.987483	0.000000
S'_(n-1)	0.041544	0.810860	0.001455	0.053596	0.818441	0.000000
S'_(n-2)	0.006345	0.947295	0.000041	0.001495	0.969404	0.000000
S'_(n-3)	0.176543	0.988700	0.026275	0.997275	0.325703	0.000000
S'_(n-4)	0.322145	0.985164	0.087486	3.589612	0.067503	0.191858
S'_(n-5)	0.348241	0.961406	0.102234	4.278257	0.047032	0.207400
S'_(n-6)	0.359500	0.969125	0.108952	4.601102	0.039897	0.214106
S'_(n-7)	0.320482	0.969818	0.086585	3.548426	0.069012	0.190868
S'_(n-8)	0.328711	0.990591	0.091089	3.755348	0.061794	0.195769
S'_(n-9)	0.162163	0.990013	0.022169	0.837220	0.367256	0.000000
S'_(n-10)	0.077215	0.944266	0.005026	0.185935	0.669305	0.000000

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.053064
R squared = 0.299797 r = 0.547537

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.858652			
B1	0.004663	0.001860	2.506936	0.017632
B2	-0.019288	0.007671	-2.514537	0.017321

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.313502	0.991445	0.068818	3.269872	0.080598	0.443709
(S'_(n-1))^2	0.205331	0.936030	0.029521	1.320498	0.259582	0.000000
(S'_(n-2))^2	0.184975	0.967184	0.023958	1.062843	0.310808	0.000000
(S'_(n-3))^2	0.128619	0.797940	0.011583	0.504637	0.482956	0.000000
(S'_(n-4))^2	0.162002	0.935089	0.018376	0.808555	0.375709	0.000000
(S'_(n-5))^2	0.087539	0.982368	0.005366	0.231668	0.633782	0.000000
(S'_(n-6))^2	0.139336	0.795104	0.013594	0.593971	0.446915	0.000000
(S'_(n-7))^2	0.393047	0.959434	0.108171	5.481365	0.026056	0.556291
(S'_(n-8))^2	0.241596	0.889307	0.040870	1.859596	0.182817	0.000000
(S'_(n-9))^2	0.087507	0.971092	0.005362	0.231497	0.633907	0.000000
(S'_(n-10))^2	0.204869	0.828030	0.029388	1.314299	0.260680	0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum[w_i, (S'_(i-n))^2)
Standard error of regression = 0.047679
R squared = 0.452946 r = 0.673013

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.910309			
B1	0.004124	0.001682	2.451910	0.020248
B2	-0.017864	0.006910	-2.585276	0.014835
B3	-0.010711	0.003696	-2.898031	0.006954

RESULTS OF REGRESSION FOR VARIABLE INT:
DIVISION #3, BETWEEN 50.00 AND 80.00 (n = 54).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.035525
R squared = 0.030594 r = 0.174912

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	1.060488			
B1	0.000731	0.000571	1.281060	0.205856

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.094027	0.992135	0.008571	0.454915	0.503056	0.000000
S'_(n-1)	0.097387	0.969694	0.009194	0.488326	0.487850	0.504827
S'_(n-2)	0.095525	0.918821	0.008846	0.469659	0.496248	0.495173
S'_(n-3)	0.038779	0.978279	0.001458	0.076810	0.782789	0.000000
S'_(n-4)	0.051200	0.999861	0.002541	0.134044	0.715790	0.000000
S'_(n-5)	0.067262	0.955612	0.004386	0.231782	0.632265	0.000000
S'_(n-6)	0.018902	0.934859	0.000346	0.018228	0.893134	0.000000
S'_(n-7)	0.051416	0.985576	0.002563	0.135181	0.714641	0.000000

S'_(n-8)	0.058534	0.986808	0.003321	0.175340	0.677167	0.000000
S'_(n-9)	0.089190	0.991400	0.007712	0.408952	0.525364	0.000000
S'_(n-10)	0.011349	0.991430	0.000125	0.006569	0.935718	0.000000

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.035673
R squared = 0.041312 r = 0.203253

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	1.059449			
B1	0.000760	0.000575	1.322255	0.191983
B2	0.002891	0.003829	0.755078	0.453675

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.245067	0.825315	0.057577	3.194764	0.079936	1.000000
(S'_(n-1))^2	0.136049	0.906472	0.017745	0.942916	0.336203	0.000000
(S'_(n-2))^2	0.094319	0.921460	0.008529	0.448795	0.505990	0.000000
(S'_(n-3))^2	0.011961	0.804154	0.000137	0.007154	0.932931	0.000000
(S'_(n-4))^2	0.213431	0.974886	0.043671	2.386345	0.128706	0.000000
(S'_(n-5))^2	0.096042	0.917367	0.008843	0.465494	0.498216	0.000000
(S'_(n-6))^2	0.108156	0.987580	0.011214	0.591806	0.445341	0.000000

(S'_(n-7))^2	0.158033	0.953513	0.023943	1.280699	0.263168	0.000000
(S'_(n-8))^2	0.018038	0.955557	0.000312	0.016274	0.899002	0.000000
(S'_(n-9))^2	0.132549	0.944073	0.016843	0.894173	0.348896	0.000000
(S'_(n-10))^2	0.004046	0.975628	0.000016	0.000818	0.977292	0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum[w_i, (S'_(i-n))^2]
Standard error of regression = 0.034929
R squared = 0.098889 r = 0.314465

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	1.065505			
B1	0.000545	0.000575	0.947512	0.347935
B2	0.000073	0.004068	0.017879	0.985807
B3	0.003621	0.002026	1.787390	0.079936

RESULTS OF REGRESSION FOR VARIABLE INT:
DIVISION #4, BETWEEN 80.00 AND 100.00 (n = 42).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.0[illegible]9174
R squared = 0.110981 r = 0.333138

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	1.572445			
B1	-0.005118	0.002290	-2.234591	0.031097

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.053962	0.940709	0.002589	0.113897	0.737561	0.000000
S'_(n-1)	0.024252	0.995862	0.000523	0.022952	0.880364	0.000000
S'_(n-2)	0.020040	0.993526	0.000357	0.015669	0.901026	0.000000
S'_(n-3)	0.055519	0.872690	0.002740	0.120582	0.730271	0.000000
S'_(n-4)	0.165117	0.942524	0.024238	1.093085	0.302226	0.000000
S'_(n-5)	0.210478	0.999722	0.039384	1.807819	0.186538	0.000000
S'_(n-6)	0.160580	0.991233	0.022924	1.032271	0.315888	0.000000
S'_(n-7)	0.233724	0.965065	0.048564	2.253547	0.141362	1.000000
S'_(n-8)	0.155955	0.987748	0.021623	0.972209	0.330208	0.000000
S'_(n-9)	0.123341	0.998820	0.013525	0.602474	0.442318	0.000000
S'_(n-10)	0.051057	0.996874	0.002317	0.101930	0.751230	0.000000

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.058268
R squared = 0.159545 r = 0.399431

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	1.632090			
B1	-0.005762	0.002296	-2.509927	0.016336
B2	-0.009469	0.006308	-1.501182	0.141362

my3

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.200763	0.953939	0.033875	1.595938	0.214176	0.509599
(S'_(n-1))^2	0.120641	0.968142	0.012232	0.561228	0.458378	0.000000
(S'_(n-2))^2	0.041432	0.998620	0.001443	0.065342	0.799622	0.000000
(S'_(n-3))^2	0.193199	0.978044	0.031371	1.473376	0.232304	0.490401
(S'_(n-4))^2	0.104809	0.957943	0.009232	0.422061	0.519818	0.000000
(S'_(n-5))^2	0.011116	0.932546	0.000104	0.004696	0.945725	0.000000
(S'_(n-6))^2	0.134838	0.890902	0.015280	0.703678	0.406797	0.000000
(S'_(n-7))^2	0.183757	0.888887	0.028379	1.327974	0.256364	0.000000
(S'_(n-8))^2	0.106671	0.981371	0.009563	0.437371	0.512384	0.000000
(S'_(n-9))^2	0.155215	0.994432	0.020248	0.938087	0.338895	0.000000
(S'_(n-10))^2	0.140411	0.935984	0.016570	0.764251	0.387493	0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum(w_i, [S'_(i-n)]^2)
Standard error of regression = 0.056699
R squared = 0.224585 r = 0.473904

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	1.658601			
B1	-0.005833	0.002234	-2.610973	0.012852
B2	-0.008405	0.006167	-1.363048	0.180890
B3	-0.010372	0.005810	-1.785315	0.082194

OVERALL REGRESSION FOR INT:
REGRESSION EQUATION = I_n = b0 + b1 (phi) + b2 SUM(v S') + b3 SUM (w S'^2)
R squared = 0.437136, r = 0.661163, p = 0.000000.

RESULTS OF REGRESSION FOR VARIABLE P1:
DIVISION #1, BETWEEN 0.00 AND 30.00 (n = 55).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.006289
R squared = 0.355124 r = 0.595923

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.034373			
B1	0.000597	0.000111	5.402435	0.000002

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.297793	0.808752	0.057188	5.060143	0.028742	0.199925
S'_(n-1)	0.286620	0.968213	0.052977	4.654192	0.035620	0.192423
S'_(n-2)	0.139347	0.999820	0.012522	1.029706	0.314926	0.000000
S'_(n-3)	0.074480	0.999312	0.003577	0.290065	0.592477	0.000000
S'_(n-4)	0.318541	0.966099	0.065435	5.872202	0.018898	0.213854
S'_(n-5)	0.300145	0.983170	0.058095	5.148308	0.027446	0.201503
S'_(n-6)	0.068751	0.989455	0.003048	0.246959	0.621319	0.000000
S'_(n-7)	0.026552	0.998121	0.000455	0.036686	0.848851	0.000000
S'_(n-8)	0.286429	0.971936	0.052907	4.647452	0.035748	0.192295

S'_(n-9)	0.121943	0.969021	0.009589	0.794911	0.379722	0.000000
S'_(n-10)	0.050333	0.998335	0.001634	0.132074	0.717765	0.000000

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.005759
R squared = 0.469479 r = 0.685186

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.036375			
B1	0.000488	0.000106	4.578894	0.000029
B2	-0.002764	0.000826	-3.347952	0.001519

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.076974	0.957113	0.003143	0.303978	0.583807	0.000000
(S'_(n-1))^2	0.206925	0.814969	0.022716	2.281394	0.137106	1.000000
(S'_(n-2))^2	0.146529	0.835204	0.011391	1.119036	0.295111	0.000000
(S'_(n-3))^2	0.015602	0.996107	0.000129	0.012418	0.911709	0.000000
(S'_(n-4))^2	0.129404	0.983829	0.008884	0.868557	0.355746	0.000000
(S'_(n-5))^2	0.031841	0.942458	0.000538	0.051757	0.820943	0.000000
(S'_(n-6))^2	0.105069	0.971505	0.005857	0.569304	0.454006	0.000000
(S'_(n-7))^2	0.014617	0.993289	0.000113	0.010898	0.917266	0.000000
(S'_(n-8))^2	0.066350	0.985652	0.002336	0.225509	0.636901	0.000000
(S'_(n-9))^2	0.062906	0.991788	0.002099	0.202620	0.654522	0.000000
(S'_(n-10))^2	0.020420	0.986631	0.000221	0.021274	0.884611	0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum(w_i, [S'_(i-n)]^2)
Standard error of regression = 0.005689

my3

R squared = 0.492195 r = 0.701566

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.035034			
B1	0.000501	0.000106	4.745868	0.000017
B2	-0.003281	0.000885	-3.709433	0.000514
B3	0.000512	0.000339	1.510428	0.137106

RESULTS OF REGRESSION FOR VARIABLE P1:
DIVISION #2, BETWEEN 30.00 AND 55.00 (n = 42).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.006824
R squared = 0.199406 r = 0.446549

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.070002			
B1	-0.000550	0.000174	-3.156404	0.003033

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.463205	0.980380	0.171775	10.653632	0.002290	0.606957
S'_(n-1)	0.299954	0.944250	0.072031	3.855842	0.056731	0.393043
S'_(n-2)	0.151751	0.999967	0.018436	0.919280	0.343571	0.000000
S'_(n-3)	0.193594	0.999887	0.030005	1.518573	0.225213	0.000000
S'_(n-4)	0.188240	0.999984	0.028368	1.432697	0.238550	0.000000
S'_(n-5)	0.059641	0.992431	0.002848	0.139221	0.711077	0.000000
S'_(n-6)	0.069947	0.999996	0.003917	0.191747	0.663882	0.000000
S'_(n-7)	0.157935	0.949115	0.019970	0.997678	0.324030	0.000000
S'_(n-8)	0.035584	0.999998	0.001014	0.049445	0.825192	0.000000
S'_(n-9)	0.008875	0.992756	0.000063	0.003072	0.956082	0.000000
S'_(n-10)	0.111081	0.935153	0.009878	0.487230	0.489307	0.000000

Partial results of regression (step #2).

Variables in: resp, sum(v_i S'_(i-n)).
Standard error of regression = 0.006218
R squared = 0.351967 r = 0.593268

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.069420			
B1	-0.000548	0.000159	-3.453446	0.001347
B2	-0.002155	0.000711	-3.030094	0.004325

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.013782	0.981376	0.000123	0.007219	0.932735	0.000000
(S'_(n-1))^2	0.206698	0.994376	0.027687	1.695977	0.200653	0.000000
(S'_(n-2))^2	0.005759	0.846748	0.000021	0.001261	0.971864	0.000000
(S'_(n-3))^2	0.070831	0.933573	0.003251	0.191608	0.664060	0.000000
(S'_(n-4))^2	0.012436	0.969392	0.000100	0.005878	0.939292	0.000000
(S'_(n-5))^2	0.056509	0.989002	0.002069	0.121733	0.729089	0.000000
(S'_(n-6))^2	0.007305	0.972963	0.000035	0.002028	0.964316	0.000000
(S'_(n-7))^2	0.387291	0.909044	0.097201	6.705578	0.013550	0.562688
(S'_(n-8))^2	0.300997	0.973838	0.058711	3.785743	0.059115	0.437312
(S'_(n-9))^2	0.086515	0.972523	0.004850	0.286571	0.595545	0.000000
(S'_(n-10))^2	0.142828	0.939767	0.013219	0.791309	0.379302	0.000000

Final results of regression (step #3).

Variables in: resp, sum(v_i S'_(i-n)], sum(w_i, (S'_(i-n)]^2)
Standard error of regression = 0.005772
R squared = 0.455891 r = 0.675197

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.064805			
B1	-0.000499	0.000149	-3.362200	0.001774
B2	-0.001943	0.000665	-2.921853	0.005829
B3	0.001078	0.000400	2.694060	0.010450

RESULTS OF REGRESSION FOR VARIABLE P1:
DIVISION #3, BETWEEN 55.00 AND 100.00 (n = 88).

Partial results of regression (step #1).

Variables in: resp.

my3

Standard error of regression = 0.002210
R squared = 0.015271 r = 0.123578

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.036798			
B1	0.000020	0.000017	1.154865	0.251344

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.711529	0.998826	0.498542	87.160110	0.000000	0.162649
S'_(n-1)	0.579646	0.893225	0.330858	43.010016	0.000000	0.132502
S'_(n-2)	0.398521	0.984171	0.156394	16.048446	0.000132	0.091098
S'_(n-3)	0.458166	0.976823	0.206710	22.583520	0.000008	0.104732
S'_(n-4)	0.347250	0.997440	0.118741	11.654902	0.000983	0.079378
S'_(n-5)	0.240831	0.981089	0.057114	5.233505	0.024639	0.055052
S'_(n-6)	0.180177	0.998710	0.031968	2.852000	0.094926	0.041187
S'_(n-7)	0.401739	0.997994	0.158929	16.358680	0.000115	0.091834
S'_(n-8)	0.305348	0.992275	0.091814	8.740081	0.004028	0.069800
S'_(n-9)	0.346211	0.999996	0.118032	11.575773	0.001021	0.079141
S'_(n-10)	0.405215	0.995522	0.161692	16.698894	0.000099	0.092628

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.001700
R squared = 0.424022 r = 0.651170

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.036232			
B1	0.000026	0.000013	1.991406	0.049648
B2	-0.001436	0.000185	-7.766689	0.000000

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.356882	0.798110	0.073359	12.260146	0.000744	1.000000
(S'_(n-1))^2	0.060276	0.949174	0.002093	0.306302	0.581428	0.000000
(S'_(n-2))^2	0.050027	0.989677	0.001442	0.210755	0.647362	0.000000
(S'_(n-3))^2	0.158994	0.974965	0.014560	2.178505	0.143689	0.000000
(S'_(n-4))^2	0.142804	0.896344	0.011746	1.748681	0.189632	0.000000
(S'_(n-5))^2	0.154329	0.996108	0.013718	2.049486	0.155968	0.000000
(S'_(n-6))^2	0.057564	0.983190	0.001909	0.279273	0.598571	0.000000
(S'_(n-7))^2	0.046817	0.999059	0.001262	0.184517	0.668619	0.000000
(S'_(n-8))^2	0.060669	0.987111	0.002120	0.310319	0.578966	0.000000
(S'_(n-9))^2	0.118273	0.967958	0.008057	1.191706	0.278107	0.000000
(S'_(n-10))^2	0.023967	0.946438	0.000331	0.048279	0.826618	0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum[w_i, [S'_(i-n)]^2)
Standard error of regression = 0.001598
R squared = 0.497381 r = 0.705253

	COEF	STD ERROR	T-VALUE	P-LEVEL

B0	0.036819			
B1	0.000025	0.000012	2.040984	0.044392
B2	-0.001130	0.000194	-5.811057	0.000000
B3	-0.000251	0.000072	-3.501449	0.000744

OVERALL REGRESSION FOR P1:
REGRESSION EQUATION = 1/P1 = b0 + b1 (phi) + b2 SUM(v S') + b3 SUM (w S'^2)
R squared = 0.630175, r = 0.793835, p = 0.000000.

RESULTS OF REGRESSION FOR VARIABLE P2:
DIVISION #1, BETWEEN 0.00 AND 15.00 (n = 17).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.001498
R squared = 0.004396 r = 0.066300

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.020506			
B1	-0.000028	0.000109	-0.257345	0.800409

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.101643	0.755052	0.010286	0.146148	0.707984	0.000000
S'_(n-1)	0.400719	0.868240	0.159870	2.678096	0.124011	0.000000
S'_(n-2)	0.375918	0.893457	0.140693	2.303993	0.151296	0.000000
S'_(n-3)	0.297870	0.893211	0.088336	1.363116	0.262499	0.000000
S'_(n-4)	0.556269	0.909410	0.308075	6.273258	0.025239	0.517412
S'_(n-5)	0.518829	0.919517	0.268000	5.156661	0.039471	0.482588
S'_(n-6)	0.368820	0.998479	0.135430	2.204232	0.159797	0.000000
S'_(n-7)	0.290067	0.999671	0.083769	1.286160	0.275803	0.000000
S'_(n-8)	0.353499	0.999887	0.124412	1.999292	0.179224	0.000000
S'_(n-9)	0.099242	0.988730	0.009806	0.139257	0.714610	0.000000

my3

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S'_(n-10)      0.184087      0.994164      0.033739      0.491072      0.494932      0.000000

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.001270
R squared = 0.331458   r = 0.575723

                COEF        STD ERROR     T-VALUE     P-LEVEL
B0          0.021286
B1         -0.000107         0.000097   -1.099499    0.290098
B2         -0.000673         0.000257   -2.617065    0.020292

Variables not in model:

                PARTIAL CORR     TOLERANCE          R-SQ       F-VALUE       P-LEVEL    NEW WEIGHT
(S'_(n-0 ))^2       0.077950      0.729314      0.004062      0.079474      0.782449      0.000000
(S'_(n-1 ))^2       0.143962      0.869466      0.013856      0.275126      0.608742      0.000000
(S'_(n-2 ))^2       0.119477      0.886435      0.009543      0.188260      0.671482      0.000000
(S'_(n-3 ))^2       0.049931      0.934213      0.001667      0.032491      0.859733      0.000000
(S'_(n-4 ))^2       0.309831      0.859017      0.064177      1.380455      0.261096      0.000000




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(S'_(n-5 ))^2       0.079907      0.965080      0.004269      0.083540      0.777114      0.000000
(S'_(n-6 ))^2       0.194585      0.761617      0.025313      0.511592      0.487099      0.000000
(S'_(n-7 ))^2       0.113484      0.828997      0.008610      0.169606      0.687171      0.000000
(S'_(n-8 ))^2       0.428170      0.992722      0.122563      2.918286      0.111332      1.000000
(S'_(n-9 ))^2       0.124477      0.853311      0.010359      0.204600      0.658489      0.000000
(S'_(n-10))^2       0.153583      0.578027      0.015769      0.314048      0.584736      0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum(w_i, [S'_(i-n)]^2)
Standard error of regression = 0.001191
R squared = 0.454021   r = 0.673811

                COEF        STD ERROR     T-VALUE     P-LEVEL
B0          0.021419
B1         -0.000094         0.000091   -1.028661    0.322399
B2         -0.000672         0.000241   -2.786505    0.015423
B3         -0.000158         0.000092   -1.708299    0.111332

RESULTS OF REGRESSION FOR VARIABLE P2:
DIVISION #2, BETWEEN 15.00 AND 35.00 (n = 42).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.003328
R squared = 0.008711   r = 0.093331

                COEF        STD ERROR     T-VALUE     P-LEVEL
B0          0.020787
B1          0.000063         0.000106    0.592867    0.556607

Variables not in model:

           PARTIAL CORR     TOLERANCE          R-SQ       F-VALUE       P-LEVEL    NEW WEIGHT
S'_(n-0 )      0.011627      0.993377      0.000134      0.005273      0.942485      0.000000
S'_(n-1 )      0.086990      0.958936      0.007501      0.297377      0.588637      0.000000
S'_(n-2 )      0.123339      0.974999      0.015080      0.602451      0.442326      0.000000
S'_(n-3 )      0.132409      0.938178      0.017380      0.695960      0.409226      0.000000
S'_(n-4 )      0.371666      0.982442      0.136932      6.250742      0.016728      0.456935
S'_(n-5 )      0.441724      0.999610      0.193421      9.454442      0.003837      0.543065
S'_(n-6 )      0.099106      0.997428      0.009736      0.386858      0.537575      0.000000
S'_(n-7 )      0.007968      0.996125      0.000063      0.002477      0.960564      0.000000
S'_(n-8 )      0.232689      0.998803      0.053672      2.232491      0.143183      0.000000
S'_(n-9 )      0.194367      0.993091      0.037449      1.531208      0.223330      0.000000
S'_(n-10)      0.166584      0.861834      0.027508      1.113146      0.297892      0.000000

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.003042
R squared = 0.192572   r = 0.438830

                COEF        STD ERROR     T-VALUE     P-LEVEL
B0          0.021222
B1          0.000040         0.000097    0.415622    0.679964




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B2         -0.001135         0.000381   -2.980064    0.004941

Variables not in model:
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my3

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.173533	0.929760	0.024315	1.179854	0.284228	0.000000
(S'_(n-1))^2	0.139428	0.970208	0.015697	0.753375	0.390858	0.000000
(S'_(n-2))^2	0.121042	0.909746	0.011830	0.565021	0.456875	0.000000
(S'_(n-3))^2	0.104883	0.995528	0.008882	0.422668	0.519520	0.000000
(S'_(n-4))^2	0.121812	0.999061	0.011981	0.572345	0.453994	0.000000
(S'_(n-5))^2	0.000190	0.650036	0.000000	0.000001	0.999071	0.000000
(S'_(n-6))^2	0.254846	0.954436	0.052440	2.639382	0.112511	1.000000
(S'_(n-7))^2	0.130454	0.990924	0.013741	0.657887	0.422358	0.000000
(S'_(n-8))^2	0.011621	0.971173	0.000109	0.005133	0.943263	0.000000
(S'_(n-9))^2	0.078888	0.960427	0.005025	0.237968	0.628481	0.000000
(S'_(n-10))^2	0.082593	0.928599	0.005508	0.260999	0.612390	0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum[w_i, [S'_(i-n)]^2)
Standard error of regression = 0.002980
R squared = 0.245012 r = 0.494987

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.020955			
B1	0.000026	0.000096	0.270293	0.788398
B2	-0.001259	0.000381	-3.305319	0.002077
B3	0.000305	0.000188	1.624617	0.112511

RESULTS OF REGRESSION FOR VARIABLE P2:
DIVISION #3, BETWEEN 35.00 AND 60.00 (n = 49).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.002276
R squared = 0.157173 r = 0.396450

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.027634			
B1	-0.000132	0.000045	-2.960522	0.004801

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.150738	0.989565	0.019151	1.069511	0.306462	0.000000
S'_(n-1)	0.046506	0.915239	0.001823	0.099703	0.753615	0.000000
S'_(n-2)	0.062069	0.998939	0.003247	0.177904	0.675145	0.000000
S'_(n-3)	0.247989	0.998168	0.051833	3.014312	0.089227	0.474673
S'_(n-4)	0.274453	0.983133	0.063486	3.747180	0.059057	0.525327
S'_(n-5)	0.103520	0.975785	0.009032	0.498295	0.483810	0.000000
S'_(n-6)	0.163490	0.991069	0.022528	1.263300	0.266859	0.000000
S'_(n-7)	0.059684	0.999876	0.003002	0.164444	0.686977	0.000000
S'_(n-8)	0.189896	0.986785	0.030393	1.720837	0.196095	0.000000
S'_(n-9)	0.069645	0.992715	0.004088	0.224208	0.638092	0.000000
S'_(n-10)	0.008397	0.985343	0.000059	0.003243	0.954832	0.000000

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.002210
R squared = 0.222392 r = 0.471584

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.028018			
B1	-0.000140	0.000044	-3.219960	0.002354
B2	-0.000432	0.000220	-1.964196	0.055566

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.016907	0.831515	0.000222	0.012866	0.910195	0.000000
(S'_(n-1))^2	0.118752	0.903342	0.010966	0.643671	0.426601	0.000000
(S'_(n-2))^2	0.015213	0.891446	0.000180	0.010417	0.919160	0.000000
(S'_(n-3))^2	0.008708	0.684718	0.000059	0.003413	0.953673	0.000000
(S'_(n-4))^2	0.011109	0.934791	0.000096	0.005554	0.940922	0.000000
(S'_(n-5))^2	0.054653	0.999591	0.002323	0.134815	0.715212	0.000000
(S'_(n-6))^2	0.133892	0.965578	0.013940	0.821444	0.369586	0.000000
(S'_(n-7))^2	0.190979	0.976570	0.028362	1.703416	0.198476	1.000000
(S'_(n-8))^2	0.085863	0.981658	0.005733	0.334225	0.566064	0.000000
(S'_(n-9))^2	0.121317	0.929988	0.011445	0.672200	0.416607	0.000000
(S'_(n-10))^2	0.107357	0.958693	0.008962	0.524699	0.472593	0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum[w_i, [S'_(i-n)]^2)
Standard error of regression = 0.002193
R squared = 0.250753 r = 0.500753

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.027287			
B1	-0.000132	0.000044	-3.020406	0.004151
B2	-0.000414	0.000219	-1.893492	0.064733

my3

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B3          0.000147        0.000113    1.305150    0.198476

RESULTS OF REGRESSION FOR VARIABLE P2:
DIVISION #4, BETWEEN 60.00 AND 100.00 (n = 77).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.001339
R squared = 0.005403  r = 0.073503

               COEF        STD ERROR     T-VALUE     P-LEVEL
B0          0.019467
B1          0.000008         0.000013    0.638285    0.525232

Variables not in model:

           PARTIAL CORR     TOLERANCE          R-SQ       F-VALUE       P-LEVEL    NEW WEIGHT
S'_(n-0 )      0.028133      0.977403      0.000787      0.058615      0.809368      0.000000
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S'_(n-1 )      0.020651      0.960665      0.000424      0.031572      0.859457      0.000000
S'_(n-2 )      0.126103      0.993505      0.015816      1.195766      0.277717      0.000000
S'_(n-3 )      0.174204      0.962035      0.030183      2.315955      0.132315      0.000000
S'_(n-4 )      0.324701      0.993369      0.104861      8.721372      0.004213      0.146460
S'_(n-5 )      0.360742      0.996626      0.129431     11.070630      0.001368      0.162717
S'_(n-6 )      0.311654      0.999473      0.096603      7.960692      0.006134      0.140575
S'_(n-7 )      0.347011      0.993652      0.119766     10.130731      0.002133      0.156523
S'_(n-8 )      0.330062      0.999977      0.108852      9.047225      0.003594      0.148878
S'_(n-9 )      0.272516      0.990570      0.073864      5.936497      0.017236      0.122922
S'_(n-10)      0.270305      0.999971      0.072670      5.832995      0.018198      0.121924

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.001216
R squared = 0.191058  r = 0.437102

               COEF        STD ERROR     T-VALUE     P-LEVEL
B0          0.019618
B1          0.000006         0.000011    0.540159    0.590709
B2         -0.000526         0.000128   -4.121078    0.000097

Variables not in model:

               PARTIAL CORR     TOLERANCE          R-SQ       F-VALUE       P-LEVEL    NEW WEIGHT
(S'_(n-0 ))^2      0.033179      0.919026      0.000891      0.080452      0.777489      0.000000
(S'_(n-1 ))^2      0.057076      0.953960      0.002635      0.238591      0.626690      0.000000
(S'_(n-2 ))^2      0.117410      0.986910      0.011151      1.020374      0.315767      0.000000
(S'_(n-3 ))^2      0.128337      0.986642      0.013324      1.222472      0.272507      0.000000
(S'_(n-4 ))^2      0.001475      0.852177      0.000002      0.000159      0.989981      0.000000
(S'_(n-5 ))^2      0.072374      0.973728      0.004237      0.384386      0.537196      0.000000
(S'_(n-6 ))^2      0.087137      0.957126      0.006142      0.558522      0.457257      0.000000
(S'_(n-7 ))^2      0.174047      0.959311      0.024505      2.280425      0.135333      1.000000
(S'_(n-8 ))^2      0.076657      0.974131      0.004754      0.431508      0.513316      0.000000
(S'_(n-9 ))^2      0.050118      0.966881      0.002032      0.183824      0.669370      0.000000
(S'_(n-10))^2      0.008593      0.955516      0.000060      0.005391      0.941672      0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum(w_i, (S'_(i-n))^2)
Standard error of regression = 0.001205
R squared = 0.215563  r = 0.464287

               COEF        STD ERROR     T-VALUE     P-LEVEL
B0          0.019731
B1          0.000007         0.000011    0.617352    0.538924
B2         -0.000488         0.000129   -3.775486    0.000323
B3         -0.000095         0.000063   -1.510107    0.135333

OVERALL REGRESSION FOR P2:
REGRESSION EQUATION = 1/P2 = b0 + b1 (phi) + b2 SUM(v S') + b3 SUM (w S'^2)
R squared = 0.351521, r = 0.592892, p = 0.000000.

Results of detrending for pp :
Division #1, between 0.00 and 40.00 (n = 71).
Detrending equation: PP = b0 + b1 (PHI)
```



```
Standard error of regression = 0.886112
R squared = 0.413300  r = 0.642884

               COEF        STD ERROR     T-VALUE     P-LEVEL
B0          1.338371         0.255664    5.234877    0.000002
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B1          -0.074517          0.010688   -6.971870    0.000000


Results of detrending for pp :
Division #2, between 40.00 and 70.00 (n = 61).
Detrending equation: PP = b0 + b1 (PHI)
Standard error of regression = 1.074350
R squared = 0.247372   r = 0.497365

                COEF        STD ERROR     T-VALUE     P-LEVEL
B0          -4.186374         0.874117   -4.789259    0.000012
B1           0.069467         0.015775    4.403632    0.000045


Results of detrending for pp :
Division #3, between 70.00 and 100.00 (n = 61).
Detrending equation: PP = b0 + b1 (PHI)
Standard error of regression = 0.838862
R squared = 0.000221   r = 0.014876

                COEF        STD ERROR     T-VALUE     P-LEVEL
B0           0.848619         1.081733    0.784499    0.435886
B1          -0.001412         0.012354   -0.114278    0.909406


Overall detrending for pp:
R squared = 0.303571, r = 0.550973, p = 0.000000.

Results of detrending for int :
Division #1, between 0.00 and 30.00 (n = 55).
Detrending equation: INT = b0 + b1 (PHI)
Standard error of regression = 0.067545
R squared = 0.104942   r = 0.323947

                COEF        STD ERROR     T-VALUE     P-LEVEL
B0           0.017161         0.023356    0.734777    0.465597
B1          -0.002988         0.001177   -2.539390    0.013962


Results of detrending for int :
Division #2, between 30.00 and 50.00 (n = 34).
Detrending equation: INT = b0 + b1 (PHI)
Standard error of regression = 0.057525
R squared = 0.213824   r = 0.462411

                COEF        STD ERROR     T-VALUE     P-LEVEL
B0          -0.261421         0.078992   -3.309451    0.002219
B1           0.005745         0.001889    3.040937    0.004519


Results of detrending for int :




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Division #3, between 50.00 and 80.00 (n = 54).
Detrending equation: INT = b0 + b1 (PHI)
Standard error of regression = 0.076195
R squared = 0.045512   r = 0.213336

                COEF        STD ERROR     T-VALUE     P-LEVEL
B0          -0.025361         0.036683   -0.691369    0.492242
B1           0.000908         0.000561    1.619420    0.111078


Results of detrending for int :
Division #4, between 80.00 and 100.00 (n = 42).
Detrending equation: INT = b0 + b1 (PHI)
Standard error of regression = 0.059350
R squared = 0.093643   r = 0.306012

                COEF        STD ERROR     T-VALUE     P-LEVEL
B0           0.454157         0.208367    2.179606    0.035085
B1          -0.004646         0.002258   -2.058166    0.045968


Overall detrending for int:
R squared = 0.281582, r = 0.530643, p = 0.000000.

Results of detrending for p1 :
Division #1, between 0.00 and 30.00 (n = 55).
Detrending equation: P1 = b0 + b1 (PHI)
Standard error of regression = 2.585712
R squared = 0.425519   r = 0.652319

                COEF        STD ERROR     T-VALUE     P-LEVEL
B0           3.725955         0.894075    4.167384    0.000110
B1          -0.287526         0.045048   -6.382684    0.000000


Results of detrending for p1 :
Division #2, between 30.00 and 55.00 (n = 42).
Detrending equation: P1 = b0 + b1 (PHI)
Standard error of regression = 3.177240
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R squared = 0.282877 r = 0.531862

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	-15.588386	3.365184	-4.632254	0.000033
B1	0.314712	0.076415	4.118470	0.000170

Results of detrending for p1 :
Division #3, between 55.00 and 100.00 (n = 88).
Detrending equation: P1 = b0 + b1 (PHI)
Standard error of regression = 1.573319
R squared = 0.011427 r = 0.106899

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	2.932779	0.962919	3.045718	0.003054
B1	-0.012172	0.012000	-1.014291	0.313193

Overall detrending for p1:
R squared = 0.331142, r = 0.575449, p = 0.000000.

Results of detrending for p2 :
Division #1, between 0.00 and 15.00 (n = 17).
Detrending equation: P2 = b0 + b1 (PHI)
Standard error of regression = 3.492158
R squared = 0.001708 r = 0.041323

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	1.128981	2.298845	0.491108	0.630018
B1	0.041236	0.249263	0.165433	0.870675

Results of detrending for p2 :
Division #2, between 15.00 and 35.00 (n = 42).
Detrending equation: P2 = b0 + b1 (PHI)
Standard error of regression = 6.773427
R squared = 0.013511 r = 0.116236

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	1.104169	5.087351	0.217042	0.829226
B1	-0.157795	0.208053	-0.758437	0.452425

Results of detrending for p2 :
Division #3, between 35.00 and 60.00 (n = 49).
Detrending equation: P2 = b0 + b1 (PHI)
Standard error of regression = 5.111139
R squared = 0.120317 r = 0.346867

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	-12.971560	4.839414	-2.680399	0.009988
B1	0.259194	0.100121	2.588794	0.012643

Results of detrending for p2 :
Division #4, between 60.00 and 100.00 (n = 77).
Detrending equation: P2 = b0 + b1 (PHI)
Standard error of regression = 3.780565
R squared = 0.000539 r = 0.023197

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	2.224238	2.893504	0.768701	0.444392
B1	-0.007160	0.034940	-0.204928	0.838162

Overall detrending for p2:
R squared = 0.147854, r = 0.384518, p = 0.000000.

Results of linear model for pp :
Linear model equation: PP = b0 + b1 (I_n-1) + b2 (D_n)
Standard error of linear model = 0.862970
R squared = 0.159812 r = 0.399765

	COEF	STD ERROR	T-VALUE	P
B0	54.297705	2.697404	20.129618	0.000000
B1	2.806053	1.193560	2.350995	0.019743
B2	-0.166527	0.039555	-4.209971	0.000039

Overall results of linear modelling of pp
after retrending: R-squared = 0.485178, r = 0.696547.

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Results of linear model for int :
Linear model equation: INT = b0 + b1 (S_n) + ... + b(1+m) (S_n-m)
Standard error of linear model = 0.053771
R squared = 0.070600 r = 0.265706

	COEF	STD ERROR	T-VALUE	P
B0	2.011005	0.373400	5.385667	0.000000
B1	0.001899	0.003811	0.498268	0.618884
B2	0.001448	0.004792	0.302083	0.762927
B3	-0.000379	0.004784	-0.079204	0.936955
B4	-0.002333	0.004783	-0.487830	0.626245
B5	0.001493	0.004854	0.307533	0.758782
B6	-0.002902	0.005010	-0.579262	0.563113
B7	0.000793	0.004796	0.165380	0.868825
B8	-0.004070	0.004747	-0.857465	0.392292
B9	-0.005564	0.004734	-1.175372	0.241348
B10	0.000987	0.004660	0.190336	0.849254
B11	-0.000835	0.003550	-0.235155	0.814347

Overall results of linear modelling of int
   after retrending: R-squared = 0.362127, r = 0.601770.

Results of linear model for p1 :
Linear model equation: P1 = b0 + b1 (S_n) + ... + b(1+m) (S_n-m)
Standard error of linear model = 1.964432
R squared = 0.295006 r = 0.543145

	COEF	STD ERROR	T-VALUE	P
B0	-58.072965	13.641530	-4.257071	0.000033
B1	0.620383	0.139214	4.456326	0.000014
B2	0.125084	0.175085	0.714418	0.475864
B3	-0.097193	0.174763	-0.556142	0.578782
B4	-0.005465	0.174725	-0.031277	0.975082
B5	-0.105763	0.177320	-0.596451	0.551599
B6	0.360844	0.183020	1.971612	0.050137
B7	-0.016410	0.175205	-0.093664	0.925477
B8	-0.305287	0.173426	-1.760335	0.079995
B9	0.096909	0.172948	0.560334	0.575926
B10	-0.023737	0.170228	-0.139443	0.889251
B11	0.190513	0.129705	1.468818	0.143571

Overall results of linear modelling of p1
   after retrending: R-squared = 0.656583, r = 0.810298.

Results of linear model for p2 :

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Linear model equation: P2 = b0 + b1 (S_n) + ... + b(1+m) (S_n-m)
Standard error of linear model = 4.404716
R squared = 0.151122 r = 0.388744

	COEF	STD ERROR	T-VALUE	P
B0	-70.216780	30.587493	-2.295604	0.022814
B1	-0.065472	0.312151	-0.209745	0.834096
B2	-0.410929	0.392582	-1.046733	0.296581
B3	0.106647	0.391858	0.272158	0.785803
B4	-0.056146	0.391775	-0.143312	0.886199
B5	0.397864	0.397594	1.000680	0.318282
B6	0.669619	0.410373	1.631734	0.104427
B7	0.141884	0.392851	0.361166	0.718386
B8	-0.364605	0.388861	-0.937624	0.349654
B9	0.200110	0.387790	0.516028	0.606448
B10	0.081579	0.381691	0.213730	0.830991
B11	0.510231	0.290828	1.754407	0.081008

Overall results of linear modelling of p2
   after retrending: R-squared = 0.277193, r = 0.526491.

Results of linear model for diast :
Linear model equation: D_n+1 = b0 + b1(D) + b2(D') + b3(D'') + b4(PP) + b5(INT) + b6(P1) + b7(P2)
Standard error of linear model = 1.165088
R squared = 0.548794 r = 0.740806

	COEF	STD ERROR	T-VALUE	P
B0	45.964209	7.664756	5.996826	0.000000
B1	0.346919	0.071321	4.864213	0.000002
B2	-0.099697	0.023778	-4.192795	0.000043
B3	0.004486	0.001159	3.872310	0.000149
B4	-0.078335	0.111467	-0.702766	0.483080
B5	-13.438252	1.845485	-7.281692	0.000000
B6	0.217059	0.053739	4.039140	0.000078
B7	-0.071443	0.025912	-2.757142	0.006412

Results of linear model for ddiast :
Linear model equation: D'_n+1 = b0 + b1(D) + b2(D') + b3(D'') + b4(PP) + b5(INT) + b6(P1) + b7(P2)
Standard error of linear model = 12.116113
R squared = 0.029280 r = 0.171114

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	COEF	STD ERROR	T-VALUE	P
B0	-4.338143	79.708199	-0.054425	0.956655
B1	-1.010379	0.741686	-1.362273	0.174759
B2	-0.102643	0.247278	-0.415093	0.678552
B3	0.004834	0.012049	0.401231	0.688711
B4	0.247425	1.159180	0.213448	0.831211
B5	10.376759	19.191774	0.540688	0.589370
B6	0.098162	0.55884[illegible]	0.175651	0.860759
B7	-0.187436	0.269466	-0.695581	0.487559

Results of linear model for dddiast :
Linear model equation: D''_n+1 = b0 + b1(D) + b2(D') + b3(D'') + b4(PP) + b5(INT) + b6(P1) + b7(P2)
Standard error of linear model = 248.[illegible]73883
R squared = 0.029208 r = 0.170903

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	COEF	STD ERROR	T-VALUE	P
B0	-54.157176	1637.922988	-0.033065	0.973659
B1	-13.184294	15.240900	-0.865060	0.388120
B2	-2.629571	5.081308	-0.517499	0.605423
B3	0.114760	0.247586	0.463517	0.643536
B4	0.990521	23.819977	0.041584	0.966875
B5	395.189111	394.371582	1.002073	0.317610
B6	7.447912	11.483747	0.648561	0.517422
B7	-5.270969	5.537263	-0.951909	0.342379

Results of windkessel model for diast :
Overall results for diast:
R-squared = 0.918089, r = 0.958169.

NONLINEAR FORECAST RESULTS (In-sample, n = 175):

STEP	PP	INT	P1	P2	DIAST
0	0.743472	0.636439	0.803250	0.560472	1.000000
1	0.539520	0.538297	0.714436	0.535239	0.115384
2	0.488687	0.504556	0.704129	0.508243	0.030884
3	0.475966	0.504483	0.603271	0.430831	0.044762
4	0.462474	0.474040	0.613186	0.436474	0.090313
5	0.408610	0.480838	0.562311	0.380644	0.153818
6	0.387326	0.446700	0.467584	-0.046187	0.142058
7	0.316679	0.352332	0.465482	-0.062403	0.132397
8	0.260673	0.308469	0.430576	0.003926	0.065169
9	0.226874	0.269124	0.328350	-0.002085	0.032385
10	0.222264	0.302571	0.293705	-0.064099	0.037794

NONLINEAR FORECAST RESULTS (Out-of-sample, n = 104):

STEP	PP	INT	P1	P2	DIAST
0	0.537824	0.153226	0.600795	0.262764	1.000000
1	0.480336	0.259865	0.616008	0.194290	0.180560
2	0.495667	0.269027	0.520065	0.151735	0.101462
3	0.505005	0.285489	0.512023	0.125344	0.094092
4	0.482596	0.298432	0.490326	0.030429	0.127354
5	0.422441	0.291204	0.469529	0.068828	0.087167
6	0.347711	0.216833	0.400194	0.178544	-0.034679
7	0.362788	0.254379	0.430746	0.186978	-0.037747
8	0.331812	0.114675	0.367206	0.119869	-0.111165
9	0.246497	0.118089	0.310128	0.206466	-0.210334
10	0.230831	0.173052	0.280610	0.153938	-0.210735

LINEAR FORECAST RESULTS (In-sample, n = 175):

STEP	PP	INT	P1	P2	DIAST
0	0.698115	0.576200	0.787975	0.529996	1.000000
1	0.556290	0.622658	0.812957	0.533098	0.628995
2	0.544384	0.623089	0.776786	0.516303	0.330180
3	0.531591	0.556219	0.696422	0.460685	0.239069
4	0.533591	0.551904	0.694583	0.475926	0.116840
5	0.473622	0.515131	0.628099	0.447806	0.080690

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6	0.435494	0.486960	0.579700	0.390264	0.091745
7	0.436380	0.474373	0.590505	0.372016	0.125717
8	0.419751	0.445727	0.578024	0.361335	0.128834
9	0.389716	0.437037	0.586522	0.346443	0.152808
10	0.343534	0.405651	0.578743	0.334155	0.126519

LINEAR FORECAST RESULTS (Out-of-sample, n = 104):

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STEP	PP	INT	P1	P2	DIAST
0	0.551619	0.485898	0.723818	0.432773	1.000000
1	0.446935	0.521525	0.682418	0.402995	0.762628
2	0.397105	0.478461	0.598742	0.330160	0.501612
3	0.388169	0.460357	0.547848	0.302261	0.328764
4	0.372274	0.440107	0.476268	0.249306	0.191253
5	0.350079	0.399145	0.462258	0.246754	0.034460
6	0.299125	0.351330	0.426289	0.242208	-0.000434
7	0.301430	0.327422	0.355035	0.198613	-0.015544
8	0.288694	0.273757	0.273309	0.139127	-0.057529
9	0.210358	0.204808	0.213640	0.079029	-0.096585
10	0.189625	0.184929	0.166668	0.060779	-0.069783

Error analysis for long forecast into file nl16.00:
Errors in p1: 0
Errors in p2: 0
Errors in p5: 0
Post inflection adjustment in p5: 6

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In-sample data for beats 145 through 300 (n = 149):

BEATNO	TIME	INT	DIAS	DIAS'	DIAS''	SYST	PP	P1	P2	P3	P4	P5	P6	RESP
AVG	1205.487	0.833	74.64	-52.38	-187.16	131.55	56.92	12.07	42.23	519.76	92926.28	29.19	-13.14	49.78
STDDEV	36.708	0.075	3.23	26.10	477.34	4.18	2.76	1.99	10.55	27.91	8402.12	30.29	10.12	28.91

Out-of-sample data for beats 301 through 436 (n = 130):

BEATNO	TIME	INT	DIAS	DIAS'	DIAS''	SYST	PP	P1	P2	P3	P4	P5	P6	RESP
AVG	1322.941	0.794	74.10	-47.80	-350.80	129.39	55.29	10.73	41.00	499.24	88946.29	16.11	-15.60	53.49
STDDEV	31.377	0.049	3.07	27.09	399.75	3.90	2.36	1.46	12.99	16.88	7840.69	35.53	8.20	28.85

Results of regression for p3 :
Regression equation: P3 = b0 + b1 (P1) + b2 (P1)^2
Standard error of regression = 14.077253
R squared = 0.749052 r = 0.865478

	COEF	STD ERROR	T-VALUE	P
B0	560.883076	34.242300	16.379831	0.000000
B1	-19.177288	5.703850	-3.362166	0.000987
B2	1.272220	0.233832	5.440741	0.000000

Results of regression for p4 :
Regression equation: P4 = b0 + b1 (PP)
Standard error of regression = 5113.456153
R squared = 0.632119 r = 0.795059

	COEF	STD ERROR	T-VALUE	P
B0	-44649.367440	8666.523147	-5.151935	0.000001
B1	2417.131189	152.088236	15.892953	0.000000

Results of regression for p5 :
Regression equation: P5 = b0 + b1 (P2) + b2 (P2)^2 + b3 (P2)^3
Standard error of regression = 9.130934
R squared = 0.910945 r = 0.954435

	COEF	STD ERROR	T-VALUE	P
B0	-373.371736	24.055904	-15.521002	0.000000
B1	22.818650	1.950274	11.700230	0.000000

B2	-0.413925	0.049843	-8.304559	0.000000
B3	0.002502	0.000404	6.193384	0.000000

Results of regression for p6 :
Regression equation: P6 = b0 + b1 (P1)
Standard error of regression = 8.298452
R squared = 0.332516 r = 0.576642

	COEF	STD ERROR	T-VALUE	P
B0	-48.464652	4.183578	-11.584499	0.000000
B1	2.927206	0.34206[illegible]	8.557449	0.000000

Results of regression for pp :
Division #1, between 0.00 and 30.00 (n = 47).
Regression equation: PP = b0 + b1 (PHI) + b2 (I_n-1) + b3 (D)
Standard error of regression = 2.428258
R squared = 0.195386 r = 0.442025

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	53.805647	10.994775	4.893747	0.000014
B1	-0.107674	0.038987	-2.761786	0.008421
B2	8.075571	4.941655	1.634184	0.109522
B3	-0.038201	0.131380	-0.290767	0.772627

Results of regression for pp :
Division #2, between 30.00 and 75.00 (n = 64).
Regression equation: PP = b0 + b1 (PHI) + b2 (I_n-1) + b3 (D)
Standard error of regression = 2.493107
R squared = 0.245528 r = 0.495508

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	46.435544	10.067064	4.612620	0.000021
B1	0.109560	0.025353	4.321358	0.000059
B2	0.175933	4.842886	0.036328	0.971141
B3	0.057365	0.101254	0.566542	0.573138

Results of regression for pp :
Division #3, between 75.00 and 100.00 (n = 37).
Regression equation: PP = b0 + b1 (PHI) + b2 (I_n-1) + b3 (D)
Standard error of regression = 1.821371
R squared = 0.516494 r = 0.718675

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	71.436586	9.296493	7.684251	0.000000
B1	-0.107076	0.041276	-2.594167	0.014034
B2	18.720733	4.204281	4.452779	0.000092
B3	-0.265020	0.092574	-2.862777	0.007241

Overall regression for pp:
R squared = 0.347656, r = 0.589623, p = 0.000000.

RESULTS OF REGRESSION FOR VARIABLE INT:
DIVISION #1, BETWEEN 0.00 AND 40.00 (n = 55).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.073020
R squared = 0.060211 r = 0.245380

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.855025			
B1	-0.001533	0.000832	-1.842732	0.070964

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.087077	0.859066	0.007126	0.397300	0.531247	0.000000
S'_(n-1)	0.396729	0.893791	0.147917	9.713298	0.002977	0.174286
S'_(n-2)	0.577778	0.986950	0.313727	26.057825	0.000005	0.253823
S'_(n-3)	0.485437	0.860251	0.221460	16.031583	0.000199	0.213256
S'_(n-4)	0.282138	0.987150	0.074809	4.497303	0.038737	0.123946
S'_(n-5)	0.122437	0.820921	0.014088	0.791383	0.377780	0.000000
S'_(n-6)	0.015952	0.948333	0.000239	0.013235	0.908853	0.000000
S'_(n-7)	0.053446	0.968834	0.002684	0.148962	0.701104	0.000000

S'_(n-8)	0.136473	0.940373	0.017503	0.986871	0.325109	0.000000
S'_(n-9)	0.231703	0.999344	0.050454	2.950067	0.091825	0.101789
S'_(n-10)	0.302521	0.972400	0.086008	5.238396	0.026187	0.132900

Partial results of regression (step #2).

Variables in: resp, sum(v_i S'_(i-n)].
Standard error of regression = 0.066023
R squared = 0.246169 r = 0.496154

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.855892			
B1	-0.001611	0.000753	-2.140929	0.036988
B2	0.017579	0.004908	3.581551	0.000751

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.263211	0.921802	0.052225	3.796279	0.056879	1.000000
(S'_(n-1))^2	0.114652	0.970282	0.009909	0.679330	0.413656	0.000000
(S'_(n-2))^2	0.028042	0.858190	0.000593	0.040135	0.842013	0.000000
(S'_(n-3))^2	0.048297	0.888457	0.001758	0.119241	0.731280	0.000000
(S'_(n-4))^2	0.059609	0.790273	0.002679	0.181863	0.671572	0.000000
(S'_(n-5))^2	0.008154	0.956480	0.000050	0.003391	0.953790	0.000000
(S'_(n-6))^2	0.030548	0.978342	0.000703	0.047637	0.828099	0.000000
(S'_(n-7))^2	0.016092	0.949245	0.000195	0.013209	0.908950	0.000000
(S'_(n-8))^2	0.034445	0.928825	0.000894	0.060580	0.806569	0.000000
(S'_(n-9))^2	0.142022	0.856047	0.015205	1.049857	0.310376	0.000000
(S'_(n-10))^2	0.152541	0.806145	0.017541	1.214975	0.275524	0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum(w_i, [S'_(i-n)]^2}
Standard error of regression = 0.064317
R squared = 0.298394 r = 0.546255

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.864640			
B1	-0.001330	0.000747	-1.780711	0.080916
B2	0.015525	0.004896	3.170675	0.002573
B3	-0.001023	0.000525	-1.948404	0.056879

RESULTS OF REGRESSION FOR VARIABLE INT:
DIVISION #2, BETWEEN 40.00 AND 75.00 (n = 50).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.070211
R squared = 0.032528 r = 0.180355

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.741388			
B1	0.001235	0.000972	1.270366	0.210078

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.062282	0.929924	0.003753	0.183027	0.670738	0.000000
S'_(n-1)	0.042975	0.999828	0.001787	0.086962	0.769374	0.000000
S'_(n-2)	0.033025	0.96944[illegible]	0.001055	0.051316	0.821771	0.000000
S'_(n-3)	0.009191	0.998277	0.000082	0.003971	0.950023	0.000000
S'_(n-4)	0.048564	0.939807	0.002282	0.111109	0.740368	0.000000
S'_(n-5)	0.050388	0.886024	0.002456	0.119634	0.730975	0.000000
S'_(n-6)	0.117587	0.999442	0.013377	0.658962	0.421019	1.000000
S'_(n-7)	0.084510	0.972885	0.006910	0.338089	0.563713	0.000000
S'_(n-8)	0.061769	0.964178	0.003691	0.180009	0.673301	0.000000
S'_(n-9)	0.087035	0.996494	0.007329	0.358743	0.552081	0.000000
S'_(n-10)	0.046249	0.988576	0.002069	0.100745	0.752343	0.000000

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.070462
R squared = 0.045905 r = 0.214254

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.736866			
B1	0.001254	0.000976	1.284662	0.205206
B2	-0.002425	0.002988	-0.811765	0.421019

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.416729	0.807135	0.165691	9.667389	0.003215	0.365525
(S'_(n-1))^2	0.405060	0.866187	0.156542	9.028784	0.004292	0.355290
(S'_(n-2))^2	0.318294	0.953923	0.096660	5.185670	0.027470	0.279185
(S'_(n-3))^2	0.036367	0.893033	0.001262	0.060920	0.806147	0.000000
(S'_(n-4))^2	0.027783	0.713807	0.000736	0.035534	0.851310	0.000000
(S'_(n-5))^2	0.104659	0.989941	0.010451	0.509438	0.478988	0.000000

my3

(S'_(n-6))^2	0.109850	0.690132	0.011513	0.561859	0.457329	0.000000
(S'_(n-7))^2	0.111999	0.974330	0.011968	0.584340	0.448520	0.000000
(S'_(n-8))^2	0.072463	0.957069	0.005010	0.242814	0.624525	0.000000
(S'_(n-9))^2	0.052596	0.924786	0.002639	0.127606	0.722561	0.000000
(S'_(n-10))^2	0.069022	0.880386	0.004545	0.220195	0.641108	0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum(w_i, (S'_(i-n))^2)
Standard error of regression = 0.063159
R squared = 0.249733 r = 0.499733

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	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.750511			
B1	0.001654	0.000882	1.875146	0.067129
B2	0.001624	0.002913	0.557453	0.579921
B3	-0.001804	0.000510	-3.535114	0.000942

RESULTS OF REGRESSION FOR VARIABLE INT:
DIVISION #3, BETWEEN 75.00 AND 100.00 (n = 34).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.063763
R squared = 0.032384 r = 0.179955

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.988470			
B1	-0.001581	0.001528	-1.034874	0.308486

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.582942	0.920139	0.328817	15.956985	0.000371	0.252731
S'_(n-1)	0.653229	0.995805	0.412890	23.073681	0.000038	0.283204
S'_(n-2)	0.408571	0.999267	0.161524	6.211773	0.018244	0.177134
S'_(n-3)	0.034619	0.987115	0.001160	0.037198	0.848320	0.000000
S'_(n-4)	0.140675	0.998150	0.019149	0.625857	0.434891	0.000000
S'_(n-5)	0.119962	0.998233	0.013925	0.452633	0.506072	0.000000
S'_(n-6)	0.064671	0.93254.	0.004047	0.130195	0.720677	0.000000
S'_(n-7)	0.134826	0.927721	0.017589	0.573950	0.454414	0.000000
S'_(n-8)	0.341002	0.997660	0.112517	4.079075	0.052133	0.147840
S'_(n-9)	0.320823	0.975212	0.099594	3.556844	0.068701	0.139091
S'_(n-10)	0.023067	0.992547	0.000515	0.016504	0.898608	0.000000

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.056182
R squared = 0.272257 r = 0.521783

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.947491			
B1	-0.001148	0.001353	-0.848692	0.402559
B2	0.016130	0.005046	3.196563	0.003193

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.192960	0.776028	0.027097	1.160209	0.290008	0.000000
(S'_(n-1))^2	0.277937	0.920904	0.056217	2.511485	0.123506	0.000000
(S'_(n-2))^2	0.320815	0.951885	0.074901	3.441922	0.073412	1.000000
(S'_(n-3))^2	0.270432	0.908407	0.053222	2.367117	0.134398	0.000000
(S'_(n-4))^2	0.213069	0.996683	0.033038	1.426727	0.241658	0.000000
(S'_(n-5))^2	0.186119	0.990824	0.025209	1.076499	0.307773	0.000000
(S'_(n-6))^2	0.271240	0.961919	0.053541	2.382406	0.133193	0.000000

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(S'_(n-7))^2	0.186917	0.897471	0.025426	1.086080	0.305667	0.000000
(S'_(n-8))^2	0.028232	0.734987	0.000580	0.023930	0.878099	0.000000
(S'_(n-9))^2	0.117670	0.684342	0.010077	0.421220	0.521267	0.000000
(S'_(n-10))^2	0.047651	0.961734	0.001652	0.068274	0.795652	0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum(w_i, (S'_(i-n))^2)
Standard error of regression = 0.054092
R squared = 0.347158 r = 0.589202

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.916499			

my3

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B1          -0.000655          0.001329  -0.492430    0.626000
B2           0.017157          0.004890   3.508815    0.001443
B3          -0.000690          0.000372  -1.855242    0.073412

OVERALL REGRESSION FOR INT:
REGRESSION EQUATION = I_n = b0 + b1 (phi) + b2 SUM(v S') + b3 SUM (w S'^2)
R squared = 0.323409, r = 0.568691, p = 0.000000.

RESULTS OF REGRESSION FOR VARIABLE P1:
DIVISION #1, BETWEEN 0.00 AND 40.00 (n = 55).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.013608
R squared = 0.198840  r = 0.445915

                COEF        STD ERROR     T-VALUE     P-LEVEL
B0          0.080135
B1          0.000562          0.000155   3.626856    0.000645

Variables not in model:

           PARTIAL CORR     TOLERANCE          R-SQ       F-VALUE       P-LEVEL    NEW WEIGHT
S'_(n-0 )      0.689285      0.859066      0.380643     47.069206      0.000000      0.198608
S'_(n-1 )      0.828502      0.893791      0.549929    113.824891      0.000000      0.238722
S'_(n-2 )      0.766647      0.986950      0.470880     74.136477      0.000000      0.220899
S'_(n-3 )      0.543143      0.860251      0.236346     21.759353      0.000022      0.156499
S'_(n-4 )      0.366541      0.987150      0.107638      8.070646      0.006409      0.105614
S'_(n-5 )      0.158421      0.820921      0.020107      1.338659      0.252558      0.000000
S'_(n-6 )      0.044241      0.948333      0.001568      0.101979      0.750747      0.000000
S'_(n-7 )      0.191216      0.968834      0.029293      1.973455      0.166027      0.000000
S'_(n-8 )      0.276458      0.940373      0.061232      4.303214      0.043007      0.079658
S'_(n-9 )      0.192678      0.999344      0.029743      2.004922      0.162752      0.000000
S'_(n-10)      0.083945      0.972400      0.005646      0.369028      0.546178      0.000000

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.007895
R squared = 0.735463  r = 0.857591

                COEF        STD ERROR     T-VALUE     P-LEVEL
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```
B0          0.082198
B1          0.000472          0.000090   5.218790    0.000003
B2         -0.005013          0.000488 -10.270535    0.000000

Variables not in model:

              PARTIAL CORR     TOLERANCE          R-SQ       F-VALUE       P-LEVEL    NEW WEIGHT
(S'_(n-0 ))^2      0.526472      0.901350      0.073322     19.556289      0.000051      0.384780
(S'_(n-1 ))^2      0.400433      0.955440      0.042418      9.739363      0.002967      0.292663
(S'_(n-2 ))^2      0.441336      0.893321      0.051526     12.336518      0.000940      0.322557
(S'_(n-3 ))^2      0.056134      0.839597      0.000834      0.161212      0.689721      0.000000
(S'_(n-4 ))^2      0.002626      0.774635      0.000002      0.000352      0.985110      0.000000
(S'_(n-5 ))^2      0.059943      0.942447      0.000951      0.183910      0.669841      0.000000
(S'_(n-6 ))^2      0.183351      0.927868      0.008893      1.774141      0.188793      0.000000
(S'_(n-7 ))^2      0.202420      0.864860      0.010839      2.178952      0.146058      0.000000
(S'_(n-8 ))^2      0.085611      0.904077      0.001939      0.376551      0.542182      0.000000
(S'_(n-9 ))^2      0.040773      0.804533      0.000440      0.084926      0.771911      0.000000
(S'_(n-10))^2      0.031885      0.799319      0.000269      0.051903      0.820696      0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum[w_i, [S'_(i-n)]^2]
Standard error of regression = 0.006247
R squared = 0.837517  r = 0.915160

                COEF        STD ERROR     T-VALUE     P-LEVEL
B0          0.077352
B1          0.000427          0.000072   5.932238    0.000000
B2         -0.004949          0.000386 -12.808042    0.000000
B3          0.000503          0.000089   5.659743    0.000001

RESULTS OF REGRESSION FOR VARIABLE P1:
DIVISION #2, BETWEEN 40.00 AND 60.00 (n = 28).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.012881
R squared = 0.121648  r = 0.348780

                COEF        STD ERROR     T-VALUE     P-LEVEL
B0          0.124913
B1         -0.000722          0.000380  -1.897597    0.068907

Variables not in model:

           PARTIAL CORR     TOLERANCE          R-SQ       F-VALUE       P-LEVEL    NEW WEIGHT
```

my3

S'_(n-0)	0.639262	0.926627	0.358944	17.276544	0.000331	0.237959
S'_(n-1)	0.643940	0.997739	0.364217	17.710160	0.000290	0.239700
S'_(n-2)	0.511833	0.995518	0.230104	8.874090	0.006351	0.190525
S'_(n-3)	0.464832	0.999933	0.189784	6.890539	0.014569	0.173029
S'_(n-4)	0.426571	0.964411	0.159828	5.560972	0.026494	0.158787
S'_(n-5)	0.260032	0.999971	0.059391	1.813002	0.190230	0.000000
S'_(n-6)	0.098205	0.963094	0.008471	0.243455	0.626028	0.000000
S'_(n-7)	0.199457	0.927727	0.034944	1.035782	0.318553	0.000000
S'_(n-8)	0.183557	0.997333	0.029595	0.871702	0.359415	0.000000

S'_(n-9)	0.137503	0.994136	0.016607	0.481789	0.494013	0.000000
S'_(n-10)	0.035727	0.995210	0.001121	0.031951	0.859576	0.000000

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.009733
R squared = 0.517791 r = 0.719577

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.117658			
B1	-0.000574	0.000289	-1.985128	0.058205
B2	-0.002644	0.000584	-4.531880	0.000125

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.451899	0.812743	0.098473	6.158812	0.020470	0.462523
(S'_(n-1))^2	0.525131	0.976160	0.132975	9.138311	0.005876	0.537477
(S'_(n-2))^2	0.055720	0.975780	0.001497	0.074745	0.786889	0.000000
(S'_(n-3))^2	0.011322	0.740879	0.000062	0.003077	0.956224	0.000000
(S'_(n-4))^2	0.073557	0.860440	0.002609	0.130560	0.721013	0.000000
(S'_(n-5))^2	0.064644	0.838214	0.002015	0.100713	0.753721	0.000000
(S'_(n-6))^2	0.093491	0.826773	0.004215	0.211624	0.649638	0.000000
(S'_(n-7))^2	0.170062	0.906629	0.013946	0.714775	0.406213	0.000000
(S'_(n-8))^2	0.298627	0.721152	0.043002	2.349821	0.138375	0.000000
(S'_(n-9))^2	0.158507	0.860059	0.012115	0.618524	0.439293	0.000000
(S'_(n-10))^2	0.193273	0.812976	0.018013	0.931292	0.344151	0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum[w_i, (S'_(i-n)]^2)
Standard error of regression = 0.008524
R squared = 0.644974 r = 0.803103

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.120482			
B1	-0.000716	0.000258	-2.775257	0.010516
B2	-0.002922	0.000520	-5.622288	0.000009
B3	0.000220	0.000075	2.932182	0.007287

RESULTS OF REGRESSION FOR VARIABLE P1:
DIVISION #3, BETWEEN 60.00 AND 100.00 (n = 56).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.012923
R squared = 0.006856 r = 0.082800

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.071761			
B1	0.000088	0.000144	0.610551	0.544058

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.817263	0.997550	0.663339	106.599146	0.000000	0.405547
S'_(n-1)	0.668676	0.936827	0.444062	42.862881	0.000000	0.331814
S'_(n-2)	0.246448	0.993418	0.060320	3.427196	0.069706	0.122294
S'_(n-3)	0.005743	0.915493	0.000033	0.001748	0.966807	0.000000
S'_(n-4)	0.022883	0.961359	0.000520	0.027767	0.868293	0.000000
S'_(n-5)	0.006372	0.998106	0.000040	0.002152	0.963172	0.000000
S'_(n-6)	0.152110	0.921075	0.022979	1.255336	0.267587	0.000000
S'_(n-7)	0.282824	0.994460	0.079441	4.608029	0.036418	0.140345
S'_(n-8)	0.213899	0.984407	0.045439	2.541167	0.116860	0.000000
S'_(n-9)	0.008127	0.984782	0.000066	0.003501	0.953039	0.000000
S'_(n-10)	0.096722	0.989350	0.009291	0.500502	0.482379	0.000000

Partial results of regression (step #2).

my3

Variables in: resp, sum(v_i S'_(i-n)].
Standard error of regression = 0.008891
R squared = 0.538538 r = 0.733852

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.066551			
B1	0.000163	0.000100	1.629348	0.109169
B2	-0.003701	0.000474	-7.814411	0.000000

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.344352	0.833538	0.054719	6.995617	0.010780	0.143545
(S'_(n-1))^2	0.390389	0.985348	0.070328	9.349932	0.003518	0.162736
(S'_(n-2))^2	0.291486	0.960700	0.036564	4.474741	0.039209	0.117339
(S'_(n-3))^2	0.312483	0.984570	0.045060	5.627041	0.021421	0.130260
(S'_(n-4))^2	0.384714	0.993070	0.068299	9.033224	0.004074	0.160370
(S'_(n-5))^2	0.360975	0.944815	0.060130	7.790938	0.007327	0.150474
(S'_(n-6))^2	0.324515	0.921212	0.048596	6.120677	0.016662	0.135276
(S'_(n-7))^2	0.179480	0.921975	0.014865	1.730831	0.194076	0.000000
(S'_(n-8))^2	0.116608	0.893212	0.006275	0.716813	0.401071	0.000000
(S'_(n-9))^2	0.024538	0.885074	0.000278	0.031330	0.860194	0.000000
(S'_(n-10))^2	0.013275	0.990494	0.000081	0.009165	0.924098	0.000000

Final results of regression (step #3).

Variables in: resp, sum(v_i S'_(i-n)], sum(w_i, [S'_(i-n)]^2)
Standard error of regression = 0.007946
R squared = 0.638435 r = 0.799021

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.064813			
B1	0.000132	0.000090	1.474279	0.146435
B2	-0.003752	0.000423	-8.859607	0.000000
B3	0.000268	0.000071	3.790382	0.000393

OVERALL REGRESSION FOR P1:
REGRESSION EQUATION = 1/P1 = b0 + b1 (ph1) + b2 SUM(v S') + b3 SUM (w S'^2)
R squared = 0.772817, r = 0.879100, p = 0.000000.

RESULTS OF REGRESSION FOR VARIABLE P2:

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DIVISION #1, BETWEEN 0.00 AND 40.00 (n = 55).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.011010
R squared = 0.005272 r = 0.072606

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.027861			
B1	-0.000066	0.000125	-0.529976	0.598342

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.128165	0.859064	0.016340	0.868428	0.355697	0.000000
S'_(n-1)	0.441250	0.893791	0.193675	12.572353	0.000838	0.150319
S'_(n-2)	0.610557	0.986950	0.370815	30.905537	0.000001	0.207996
S'_(n-3)	0.517719	0.860251	0.266620	19.041403	0.000061	0.176369
S'_(n-4)	0.383138	0.987150	0.146021	8.946670	0.004242	0.130522
S'_(n-5)	0.195660	0.820921	0.038081	2.069951	0.156218	0.000000
S'_(n-6)	0.013877	0.948333	0.000192	0.010015	0.920669	0.000000
S'_(n-7)	0.232146	0.968834	0.053608	2.962002	0.091188	0.079084
S'_(n-8)	0.391935	0.940373	0.152803	9.437626	0.003379	0.133519
S'_(n-9)	0.358688	0.999344	0.127979	7.678012	0.007736	0.122193
S'_(n-10)	0.226183	0.972400	0.050889	2.803699	0.100052	0.000000

Partial results of regression (step #2).

Variables in: resp, sum(v_i S'_(i-n)].
Standard error of regression = 0.010520
R squared = 0.109020 r = 0.330181

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.027000			
B1	-0.000020	0.000121	-0.166627	0.868310
B2	-0.002047	0.000832	-2.460695	0.017224

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.321639	0.948328	0.092173	5.884829	0.018848	0.131760
(S'_(n-1))^2	0.372727	0.972418	0.123780	8.229308	0.005985	0.152688
(S'_(n-2))^2	0.341976	0.819520	0.104198	6.754215	0.012199	0.140091
(S'_(n-3))^2	0.365453	0.980855	0.116995	7.861255	0.007127	0.149708
(S'_(n-4))^2	0.334646	0.904750	0.099779	6.431658	0.014316	0.137088
(S'_(n-5))^2	0.230015	0.973288	0.047139	2.848993	0.097538	0.094226
(S'_(n-6))^2	0.232701	0.997269	0.048246	2.919747	0.093582	0.095326
(S'_(n-7))^2	0.241945	0.984403	0.052156	3.171031	0.080912	0.099113

(S'_(n-8))^2	0.100498	0.922665	0.008999	0.520353	0.473985	0.000000
(S'_(n-9))^2	0.112600	0.858907	0.011297	0.654921	0.422118	0.000000
(S'_(n-10))^2	0.031055	0.888728	0.000859	0.049233	0.825290	0.000000

Final results of regression (step #3).

Variables in: resp, sum(v_1 S'_(i-n)], sum(w_1, (S'_(i-n)]^2)

Standard error of regression = 0.008895
R squared = 0.375240 r = 0.612569

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.019993			
B1	-0.000068	0.000103	-0.657021	0.514122
B2	-0.001605	0.000710	-2.261999	0.027989
B3	0.000672	0.000144	4.661756	0.000023

RESULTS OF REGRESSION FOR VARIABLE P2:
DIVISION #2, BETWEEN 40.00 AND 70.00 (n = 45).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.007714
R squared = 0.003461 r = 0.058833

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.028434			
B1	-0.000051	0.000131	-0.386465	0.701058

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.018929	0.906818	0.000357	0.015054	0.902934	0.000000
S'_(n-1)	0.212744	0.974595	0.045103	1.991027	0.165598	0.000000
S'_(n-2)	0.414847	1.000000	0.171503	8.730668	0.005111	0.222788
S'_(n-3)	0.422150	0.995075	0.177594	9.107973	0.004312	0.226710
S'_(n-4)	0.422104	0.897487	0.177555	9.105581	0.004317	0.226686
S'_(n-5)	0.292721	0.907115	0.085389	3.936072	0.053822	0.157202
S'_(n-6)	0.310246	0.997788	0.095919	4.473161	0.040406	0.166614
S'_(n-7)	0.237986	0.953091	0.056641	2.521587	0.119798	0.000000
S'_(n-8)	0.050101	0.962359	0.002501	0.105690	0.746719	0.000000
S'_(n-9)	0.168171	0.998115	0.028184	1.222393	0.275185	0.000000
S'_(n-10)	0.239834	0.996871	0.057321	2.563308	0.116865	0.000000

Partial results of regression (step #2).

Variables in: resp, sum(v_1 S'_(i-n)].
Standard error of regression = 0.007011
R squared = 0.195966 r = 0.442680

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.025791			
B1	0.000005	0.000120	0.044103	0.965032
B2	-0.001109	0.000350	-3.171085	0.002836

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.155720	0.688218	0.019497	1.018908	0.318698	0.000000
(S'_(n-1))^2	0.352861	0.927440	0.100111	5.830979	0.020293	0.199905
(S'_(n-2))^2	0.379510	0.983599	0.115803	6.898736	0.012074	0.215002
(S'_(n-3))^2	0.085756	0.850901	0.005913	0.303748	0.584533	0.000000
(S'_(n-4))^2	0.034237	0.700951	0.000942	0.048115	0.827465	0.000000

(S'_(n-5))^2	0.078337	0.979808	0.004934	0.253155	0.617554	0.000000
(S'_(n-6))^2	0.103451	0.811121	0.008605	0.443532	0.509153	0.000000
(S'_(n-7))^2	0.071133	0.958127	0.004068	0.208511	0.650347	0.000000
(S'_(n-8))^2	0.259446	0.883138	0.054121	2.958976	0.092943	0.146983
(S'_(n-9))^2	0.400608	0.783489	0.129037	7.837846	0.007766	0.226955
(S'_(n-10))^2	0.372723	0.770545	0.111698	6.614764	0.013836	0.211157

Final results of regression (step #3).

Variables in: resp, sum(v_1 S'_(i-n)], sum(w_1, (S'_(i-n)]^2)
Standard error of regression = 0.006029
R squared = 0.419539 r = 0.647718

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.020865			
B1	0.000016	0.000103	0.151999	0.879933
B2	-0.000769	0.000313	-2.460641	0.018170

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B3          0.000272        0.000068    3.973881    0.000280

RESULTS OF REGRESSION FOR VARIABLE P2:
DIVISION #3, BETWEEN 70.00 AND 100.00 (n = 39).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.006097
R squared = 0.008984  r = 0.094783

                COEF        STD ERROR     T-VALUE     P-LEVEL
B0          0.031034
B1         -0.000072         0.000124   -0.579151    0.565997

Variables not in model:

           PARTIAL CORR     TOLERANCE          R-SQ       F-VALUE       P-LEVEL    NEW WEIGHT
S'_(n-0 )      0.125391      0.969518      0.015582      0.575067      0.453189      0.000000
S'_(n-1 )      0.473590      0.925476      0.222273     10.408957      0.002671      0.534295
S'_(n-2 )      0.412792      0.982243      0.168867      7.394282      0.010006      0.465705
S'_(n-3 )      0.213706      0.984406      0.045260      1.722817      0.197638      0.000000
S'_(n-4 )      0.000845      0.994799      0.000001      0.000026      0.995983      0.000000
S'_(n-5 )      0.011561      0.999183      0.000132      0.004812      0.945079      0.000000
S'_(n-6 )      0.044722      0.935734      0.001982      0.072145      0.789772      0.000000
S'_(n-7 )      0.026919      0.968099      0.000718      0.026106      0.872545      0.000000
S'_(n-8 )      0.064612      0.998923      0.004137      0.150917      0.699948      0.000000
S'_(n-9 )      0.000137      0.983541      0.000000      0.000001      0.999348      0.000000
S'_(n-10)      0.036922      0.997757      0.001351      0.049143      0.825814      0.000000

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.005473
R squared = 0.222934  r = 0.472158

                COEF        STD ERROR     T-VALUE     P-LEVEL
B0          0.023961
B1          0.000005         0.000114    0.044479    0.964768
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B2         -0.000760         0.000241   -3.148315    0.003294

Variables not in model:

              PARTIAL CORR     TOLERANCE          R-SQ       F-VALUE       P-LEVEL    NEW WEIGHT
(S'_(n-0 ))^2      0.130235      0.795375      0.013180      0.603881      0.442322      0.000000
(S'_(n-1 ))^2      0.007487      0.978381      0.000044      0.001962      0.964920      0.000000
(S'_(n-2 ))^2      0.078385      0.970059      0.004774      0.216374      0.644698      0.000000
(S'_(n-3 ))^2      0.154499      0.931741      0.018548      0.855875      0.361231      0.000000
(S'_(n-4 ))^2      0.086409      0.949981      0.005802      0.263291      0.611092      0.000000
(S'_(n-5 ))^2      0.135634      0.984670      0.014295      0.655945      0.423468      0.000000
(S'_(n-6 ))^2      0.148709      0.928200      0.017184      0.791510      0.379718      0.000000
(S'_(n-7 ))^2      0.128733      0.986636      0.012878      0.589804      0.447646      0.000000
(S'_(n-8 ))^2      0.204289      0.971010      0.032430      1.524308      0.225194      1.000000
(S'_(n-9 ))^2      0.168260      0.872372      0.022000      1.019766      0.319505      0.000000
(S'_(n-10))^2      0.125269      0.999113      0.012193      0.557935      0.460082      0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum(w_i, [S'_(i-n)]^2)
Standard error of regression = 0.005434
R squared = 0.255364  r = 0.505335

                COEF        STD ERROR     T-VALUE     P-LEVEL
B0          0.023993
B1          0.000015         0.000113    0.128587    0.898420
B2         -0.000810         0.000243   -3.333027    0.002039
B3         -0.000064         0.000052   -1.234629    0.225194

OVERALL REGRESSION FOR P2:
REGRESSION EQUATION = 1/P2 = b0 + b1 (phi) + b2 SUM(v S') + b3 SUM (w S'^2)
R squared = 0.374066, r = 0.611610, p = 0.000000.

Results of detrending for pp :
Division #1, between 0.00 and 30.00 (n = 47).
Detrending equation: PP = b0 + b1 (PHI)
Standard error of regression = 2.450307
R squared = 0.142601  r = 0.377626

                COEF        STD ERROR     T-VALUE     P-LEVEL
B0          0.878048         0.697619    1.258636    0.214653
B1         -0.106399         0.038892   -2.735752    0.008875


Results of detrending for pp :
Division #2, between 30.00 and 75.00 (n = 64).
Detrending equation: PP = b0 + b1 (PHI)
Standard error of regression = 2.447225
R squared = 0.241101  r = 0.491020

                COEF        STD ERROR     T-VALUE     P-LEVEL
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my3

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B0          -6.112313          1.358600   -4.498979    0.000030
B1           0.111009          0.024813    4.473812    0.000033

Results of detrending for pp :

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Division #3, between 75.00 and 100.00 (n = 37).
Detrending equation: PP = b0 + b1 (PHI)
Standard error of regression = 2.475970
R squared = 0.052346  r = 0.228792

                COEF        STD ERROR     T-VALUE     P-LEVEL
B0          7.997076         4.836136    1.653609    0.107150
B1         -0.076898         0.055305   -1.390436    0.173176

Overall detrending for pp:
R squared = 0.237407, r = 0.487244, p = 0.000000.

Results of detrending for int :
Division #1, between 0.00 and 40.00 (n = 55).
Detrending equation: INT = b0 + b1 (PHI)
Standard error of regression = 0.072408
R squared = 0.053516  r = 0.231336

                COEF        STD ERROR     T-VALUE     P-LEVEL
B0          0.022840         0.018435    1.238939    0.220536
B1         -0.001454         0.000817   -1.779430    0.080596

Results of detrending for int :
Division #2, between 40.00 and 75.00 (n = 50).
Detrending equation: INT = b0 + b1 (PHI)
Standard error of regression = 0.074799
R squared = 0.047150  r = 0.217141

                COEF        STD ERROR     T-VALUE     P-LEVEL
B0         -0.102922         0.057238   -1.798144    0.077960
B1          0.001588         0.000990    1.604098    0.114750

Results of detrending for int :
Division #3, between 75.00 and 100.00 (n = 34).
Detrending equation: INT = b0 + b1 (PHI)
Standard error of regression = 0.069320
R squared = 0.010378  r = 0.101875

                COEF        STD ERROR     T-VALUE     P-LEVEL
B0          0.108339         0.135397    0.800153    0.429020
B1         -0.000938         0.001548   -0.605852    0.548522

Overall detrending for int:
R squared = 0.084059, r = 0.289929, p = 0.000335.

Results of detrending for p1 :
Division #1, between 0.00 and 40.00 (n = 55).
Detrending equation: P1 = b0 + b1 (PHI)
Standard error of regression = 1.460459
R squared = 0.278459  r = 0.527693

                COEF        STD ERROR     T-VALUE     P-LEVEL

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B0          0.650031         0.371839    1.748151    0.085918
B1         -0.076626         0.016483   -4.648840    0.000021

Results of detrending for p1 :
Division #2, between 40.00 and 60.00 (n = 28).
Detrending equation: P1 = b0 + b1 (PHI)
Standard error of regression = 1.573850
R squared = 0.167930  r = 0.409793

                COEF        STD ERROR     T-VALUE     P-LEVEL
B0         -5.868338         2.263506   -2.592588    0.014973
B1          0.108261         0.045541    2.377189    0.024515

Results of detrending for p1 :
Division #3, between 60.00 and 100.00 (n = 56).
Detrending equation: P1 = b0 + b1 (PHI)
Standard error of regression = 1.936926
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my3

R squared = 0.010577 r = 0.102845

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	2.338611	1.639809	1.426149	0.159096
B1	-0.016302	0.020527	-0.794175	0.430276

Overall detrending for p1:
R squared = 0.303106, r = 0.550551, p = 0.000000.

Results of detrending for p2 :
Division #1, between 0.00 and 40.00 (n = 55).
Detrending equation: P2 = b0 + b1 (PHI)
Standard error of regression = 12.701947
R squared = 0.010570 r = 0.102810

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	-1.777454	3.233971	-0.549620	0.584766
B1	0.110880	0.143355	0.773459	0.442503

Results of detrending for p2 :
Division #2, between 40.00 and 70.00 (n = 45).
Detrending equation: P2 = b0 + b1 (PHI)
Standard error of regression = 9.545640
R squared = 0.000010 r = 0.003144

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	-0.330546	8.670869	-0.038121	0.969756
B1	-0.003334	0.156360	-0.021323	0.983081

Results of detrending for p2 :
Division #3, between 70.00 and 100.00 (n = 39).
Detrending equation: P2 = b0 + b1 (PHI)
Standard error of regression = 8.640202
R squared = 0.025374 r = 0.159292

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	-14.062707	13.751756	-1.022612	0.312488
B1	0.165791	0.160470	1.033156	0.307587

Overall detrending for p2:
R squared = 0.011945, r = 0.109294, p = 0.184559.

Results of linear model for pp :
Linear model equation: PP = b0 + b1 (I_n-1) + b2 (D_n)
Standard error of linear model = 2.375820
R squared = 0.048423 r = 0.220052

	COEF	STD ERROR	T-VALUE	P
B0	53.070870	5.700611	9.309681	0.000000
B1	7.050302	2.820020	2.500090	0.013530
B2	-0.027248	0.062482	-0.436091	0.663419

Overall results of linear modelling of pp
   after retrending: R-squared = 0.274591, r = 0.524014.

Results of linear model for int :
Linear model equation: INT = b0 + b1 (S_n) + ... + b(1+m) (S_n-m)
Standard error of linear model = 0.066291
R squared = 0.117102 r = 0.342202

	COEF	STD ERROR	T-VALUE	P
B0	0.532972	0.399731	1.333328	0.184590
B1	-0.005217	0.003040	-1.715964	0.088381
B2	0.009030	0.004705	1.919058	0.057012
B3	0.000957	0.004871	0.196429	0.844559
B4	-0.002854	0.004868	-0.586179	0.558699
B5	0.003622	0.004910	0.737734	0.461911
B6	-0.001213	0.004905	-0.247183	0.805129
B7	-0.001523	0.004899	-0.310786	0.756425
B8	-0.000070	0.004852	-0.014524	0.988432
B9	0.000779	0.004842	0.160840	0.872452
B10	-0.001930	0.004626	-0.417235	0.677145
B11	0.000649	0.002990	0.216992	0.828530

Overall results of linear modelling of int
   after retrending: R-squared = 0.192326, r = 0.438550.

Results of linear model for p1 :
Linear model equation: P1 = b0 + b1 (S_n) + ... + b(1+m) (S_n-m)
Standard error of linear model = 1.130540
R squared = 0.557837 r = 0.746885

	COEF	STD ERROR	T-VALUE	P
B0	-37.316114	6.817049	-5.473939	0.000000

B1	0.199736	0.051848	3.852376	0.000177
B2	0.137295	0.080245	1.710943	0.089306
B3	-0.028538	0.083076	-0.343513	0.731728

B4	0.043583	0.083024	0.524939	0.600456
B5	0.028611	0.083730	0.341706	0.733084
B6	-0.008248	0.083658	-0.098594	0.921601
B7	0.025890	0.083547	0.309880	0.757113
B8	-0.041698	0.082744	-0.503940	0.615096
B9	0.022744	0.082568	0.275460	0.783369
B10	0.021693	0.078900	0.274941	0.783767
B11	-0.026294	0.050985	-0.515721	0.606863

Overall results of linear modelling of p1
after retrending: R-squared = 0.686445, r = 0.828520.

Results of linear model for p2 :
Linear model equation: P2 = b0 + b1 (S_n) + ... + b(1+m) (S_n-m)
Standard error of linear model = 8.985711
R squared = 0.329510 r = 0.574029

	COEF	STD ERROR	T-VALUE	P
B0	-12.267834	54.182993	-0.226415	0.821209
B1	-1.887883	0.412093	-4.581210	0.000010
B2	1.379126	0.637800	2.162318	0.032293
B3	0.792973	0.660300	1.200929	0.231807
B4	-0.333646	0.659889	-0.505609	0.613927
B5	0.989758	0.665497	1.487247	0.139198
B6	-0.308503	0.664931	-0.463962	0.643396
B7	-0.156752	0.664047	-0.236056	0.813735
B8	0.166697	0.657660	0.253469	0.800277
B9	-0.549561	0.656261	-0.837411	0.403789
B10	0.283908	0.627111	0.452723	0.651449
B11	0.036163	0.405235	0.089239	0.929020

Overall results of linear modelling of p2
after retrending: R-squared = 0.338221, r = 0.581568.

Results of linear model for diast :
Linear model equation: D_n+1 = b0 + b1(D) + b2(D') + b3(D'') + b4(PP) + b5(INT) + b6(P1) + b7(P2)
Standard error of linear model = 1.646222
R squared = 0.752473 r = 0.867452

	COEF	STD ERROR	T-VALUE	P
B0	48.072978	8.923008	5.387531	0.000000
B1	0.624233	0.071901	8.681791	0.000000
B2	-0.025830	0.011188	-2.308863	0.022415
B3	0.000987	0.000588	1.677552	0.095666
B4	-0.198840	0.091563	-2.171625	0.031569
B5	-11.344498	2.639706	-4.297636	0.000032
B6	0.295949	0.187160	1.581258	0.116076
B7	-0.095900	0.017701	-5.417784	0.000000

Results of linear model for ddiast :
Linear model equation: D'_n+1 = b0 + b1(D) + b2(D') + b3(D'') + b4(PP) + b5(INT) + b6(P1) + b7(P2)
Standard error of linear model = 22.565162
R squared = 0.292585 r = 0.540912

	COEF	STD ERROR	T-VALUE	P
B0	127.469308	122.309791	1.042184	0.299123
B1	-1.075559	0.985570	-1.091306	0.277013
B2	-0.188238	0.153350	-1.227504	0.221693
B3	0.016344	0.008063	2.026918	0.044569
B4	0.721356	1.255070	0.574753	0.566381
B5	-98.569103	36.183085	-2.724176	0.007268
B6	-3.358073	2.565450	-1.308960	0.192692
B7	-0.589696	0.242632	-2.430416	0.016347

Results of linear model for dddiast :
Linear model equation: D''_n+1 = b0 + b1(D) + b2(D') + b3(D'') + b4(PP) + b5(INT) + b6(P1) + b7(P2)
Standard error of linear model = 417.673748
R squared = 0.275738 r = 0.525108

	COEF	STD ERROR	T-VALUE	P
B0	-1697.007503	2263.914106	-0.749590	0.454759
B1	7.967801	18.242574	0.436770	0.662951
B2	-9.364700	2.838458	-3.299221	0.001230
B3	0.639059	0.149251	4.281774	0.000034
B4	41.098500	23.230931	1.769128	0.079050

my3

B5	-1505.309132	669.737036	-2.247612	0.026165
B6	-18.446210	47.485643	-0.388459	0.698267
B7	-7.593749	4.491036	-1.690868	0.093087

Results of windkessel model for diast :
Overall results for diast:
R-squared = 0.818561, r = 0.904744.

NONLINEAR FORECAST RESULTS (In-sample, n = 129):

STEP	PP	INT	P1	P2	DIAST
0	0.536563	0.525801	0.824345	0.460231	1.000000
1	0.467192	0.505951	0.741798	0.371974	0.275226
2	0.470889	0.389422	0.593092	0.364175	0.199762
3	0.425536	0.305538	0.498444	0.305739	0.178561
4	0.379205	0.297445	0.432840	0.270428	0.226895
5	0.295713	0.290675	0.417018	0.037679	0.171905
6	0.275145	0.257931	0.436322	0.072632	0.166909
7	0.250963	0.246613	0.390761	0.176591	0.190980
8	0.207128	0.190361	0.311916	0.146231	0.186254
9	0.235564	0.167004	0.285548	-0.014741	0.125655
10	0.244781	0.142540	0.256297	-0.052610	0.106275

NONLINEAR FORECAST RESULTS (Out-of-sample, n = 110):

STEP	PP	INT	P1	P2	DIAST
0	0.141237	0.491511	0.363336	0.191965	1.000000
1	0.246162	0.447074	0.424510	0.209127	0.314950
2	0.245812	0.316574	0.306778	0.218300	0.280621
3	0.288051	0.127675	0.195691	0.132938	0.277388
4	0.298499	0.078813	0.159289	0.064747	0.203387
5	0.228206	0.096246	0.160522	0.030267	0.085891
6	0.204049	0.058159	0.126292	-0.068452	-0.009443
7	0.141050	0.101660	0.153431	-0.128031	-0.005934

8	0.264136	0.057031	0.232044	-0.120947	0.023435
9	0.127469	0.180029	0.226790	-0.067130	-0.009767
10	0.266620	0.121194	0.192837	0.015375	0.035910

LINEAR FORECAST RESULTS (In-sample, n = 129):

STEP	PP	INT	P1	P2	DIAST
0	0.289173	0.589390	0.450014	-0.070308	1.000000
1	0.306738	0.599939	0.459571	-0.111943	0.837005
2	0.304705	0.591848	0.446981	-0.135004	0.539955
3	0.308353	0.570129	0.433125	-0.129688	0.206264
4	0.319537	0.548448	0.430099	-0.109266	0.003550
5	0.327762	0.525356	0.435676	-0.091473	-0.249258
6	0.319982	0.495894	0.430480	-0.073125	-0.261409
7	0.289708	0.464645	0.406141	-0.068508	-0.199177
8	0.269868	0.429608	0.390278	-0.067404	-0.126007
9	0.266787	0.400822	0.392252	-0.059100	-0.044214
10	0.273746	0.384532	0.408010	-0.053617	0.083403

LINEAR FORECAST RESULTS (Out-of-sample, n = 110):

STEP	PP	INT	P1	P2	DIAST
0	-0.059699	-0.061547	0.123689	0.136598	1.000000
1	-0.086433	-0.093142	0.094412	0.083176	0.850129
2	-0.105172	-0.128615	0.051485	0.082050	0.567643
3	-0.117256	-0.173801	0.020345	0.122637	0.245501
4	-0.075193	-0.166851	0.045355	0.164665	0.045148
5	-0.065300	-0.163147	0.057146	0.180485	-0.102742
6	-0.109737	-0.176582	0.046947	0.180089	0.012537
7	-0.135813	-0.189866	0.033653	0.191159	0.113953
8	-0.125611	-0.190161	0.047125	0.200645	0.186427
9	-0.073479	-0.171706	0.089588	0.185835	0.187142
10	-0.061899	-0.158478	0.111706	0.137474	0.207746

Error analysis for long forecast into file n116.00:
Errors in p1: 0
Errors in p2: 0
Errors in p5: 0
Post inflection adjustment in p5: 0

my3

In-sample data for beats 99 through 200 (n = 98):

BEATNO	TIME	INT	DIAS	DIAS'	DIAS''	SYST	PP	P1	P2	P3	P4	P5	P6	RESP
AVG	2085.071	0.904	42.93	-26.19	124.47	102.65	59.72	28.58	91.09	757.04	124588.33	41.50	49.66	49.45
STDDEV	26.495	0.149	5.16	17.98	427.87	6.41	3.50	8.37	30.25	224.11	8265.45	8.93	28.76	29.26

Out-of-sample data for beats 201 through 372 (n = 168):

BEATNO	TIME	INT	DIAS	DIAS'	DIAS''	SYST	PP	P1	P2	P3	P4	P5	P6	RESP
AVG	2205.822	0.867	44.26	-30.29	72.06	98.60	54.34	33.19	95.59	966.99	115763.71	41.83	60.44	50.82
STDDEV	43.028	0.124	4.51	18.29	401.53	4.77	2.90	8.58	28.59	273.47	7187.38	7.49	29.83	28.51

Results of regression for p3 :
Regression equation: P3 = b0 + b1 (P1) + b2 (P1)^2
Standard error of regression = 96.750129
R squared = 0.817467 r = 0.904139

	COEF	STD ERROR	T-VALUE	P
B0	-53.187119	78.964527	-0.673557	0.502228
B1	31.928947	4.729048	6.751665	0.000000
B2	-0.115398	0.067841	-1.700999	0.092214

Results of regression for p4 :
Regression equation: P4 = b0 + b1 (PP)
Standard error of regression = 7607.246384
R squared = 0.161658 r = 0.402067

	COEF	STD ERROR	T-VALUE	P
B0	67882.807449	13201.980955	5.141865	0.000001
B1	949.493874	220.683056	4.302523	0.000041

Results of regression for p5 :
Regression equation: P5 = b0 + b1 (P2) + b2 (P2)^2 + b3 (P2)^3
Standard error of regression = 4.366693
R squared = 0.768258 r = 0.876503

	COEF	STD ERROR	T-VALUE	P
B0	23.886254	14.231003	1.678466	0.096578
B1	-0.043256	0.397157	-0.108914	0.913503
B2	0.004072	0.003469	1.174036	0.243347
B3	-0.000015	0.000010	-1.604606	0.111935

Results of regression for p6 :
Regression equation: P6 = b0 + b1 (P1)
Standard error of regression = 21.478798
R squared = 0.448000 r = 0.669328

	COEF	STD ERROR	T-VALUE	P
B0	-16.098032	7.759043	-2.074744	0.040686
B1	2.300895	0.260671	8.826833	0.000000

Results of regression for pp :
Division #1, between 0.00 and 15.00 (n = 11).
Regression equation: PP = b0 + b1 (PHI) + b2 (I_n-1) + b3 (D)
Standard error of regression = 1.844613
R squared = 0.796666 r = 0.892562

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	21.807319	22.075165	0.987867	0.356126
B1	-0.042027	0.212001	-0.198238	0.848493
B2	31.611183	10.205688	3.097408	0.017385
B3	0.153382	0.357206	0.429395	0.680543

Results of regression for pp :
Division #2, between 15.00 and 57.00 (n = 48).
Regression equation: PP = b0 + b1 (PHI) + b2 (I_n-1) + b3 (D)
Standard error of regression = 2.365498
R squared = 0.578536 r = 0.760615

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	39.049081	10.622967	3.675911	0.000641
B1	0.167944	0.046713	3.595254	0.000815

my3

B2	10.330675	5.794663	1.782791	0.081520
B3	0.128000	0.166339	0.769510	0.445702

Results of regression for pp :
Division #3, between 57.00 and 100.00 (n = 38).
Regression equation: PP = b0 + b1 (PHI) + b2 (I_n-1) + b3 (D)
Standard error of regression = 1.741783
R squared = 0.628527 r = 0.792797

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	24.429135	10.475617	2.332000	0.025760
B1	-0.015605	0.036065	-0.432691	0.667972
B2	12.820237	3.669959	3.493292	0.001345
B3	0.629069	0.162206	3.878219	0.000458

Overall regression for pp:
R squared = 0.685812, r = 0.828138, p = 0.000000.

RESULTS OF REGRESSION FOR VARIABLE INT:
DIVISION #1, BETWEEN 0.00 AND 30.00 (n = 27).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.062300
R squared = 0.541629 r = 0.735955

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.921752			
B1	-0.008471	0.001558	-5.435165	0.000012

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.122395	0.602762	0.006867	0.365003	0.551409	0.000000
S'_(n-1)	0.293210	0.980988	0.039407	2.257396	0.146022	0.000000
S'_(n-2)	0.501157	0.948343	0.115124	8.049500	0.009106	0.178028
S'_(n-3)	0.636138	0.786041	0.185489	16.313849	0.000477	0.225977
S'_(n-4)	0.691006	0.619869	0.218867	21.932128	0.000093	0.245469
S'_(n-5)	0.609318	0.599557	0.170178	14.172086	0.000953	0.216450
S'_(n-6)	0.377430	0.763521	0.065296	3.986808	0.057320	0.134076
S'_(n-7)	0.213285	0.999804	0.020852	1.143807	0.295488	0.000000
S'_(n-8)	0.118733	0.562694	0.006462	0.343179	0.563469	0.000000
S'_(n-9)	0.065597	0.249461	0.001972	0.103717	0.750202	0.000000
S'_(n-10)	0.102063	0.327761	0.004775	0.252636	0.619806	0.000000

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.049903
R squared = 0.717670 r = 0.847154

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.878612			
B1	-0.005216	0.001505	-3.465260	0.002008
B2	0.011305	0.002922	3.868419	0.000734

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.160983	0.612521	0.007317	0.611912	0.442048	0.000000
(S'_(n-1))^2	0.129427	0.583220	0.004729	0.391847	0.537493	0.000000
(S'_(n-2))^2	0.304286	0.174231	0.026141	2.346865	0.139176	0.000000
(S'_(n-3))^2	0.363796	0.164201	0.037366	3.508316	0.073827	0.229462
(S'_(n-4))^2	0.446388	0.899819	0.056258	5.723507	0.025299	0.281557
(S'_(n-5))^2	0.418508	0.553521	0.049450	4.883825	0.037335	0.263972
(S'_(n-6))^2	0.043154	0.303248	0.000526	0.042911	0.837715	0.000000
(S'_(n-7))^2	0.356736	0.374228	0.035929	3.353800	0.080035	0.225009
(S'_(n-8))^2	0.323197	0.395318	0.029491	2.682713	0.115053	0.000000
(S'_(n-9))^2	0.034281	0.745208	0.000332	0.027061	0.870772	0.000000
(S'_(n-10))^2	0.037114	0.796826	0.000389	0.031725	0.860192	0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum(w_i, (S'_(i-n))^2)
Standard error of regression = 0.047690
R squared = 0.752896 r = 0.867696

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.834357			
B1	-0.005643	0.001458	-3.871114	0.000774
B2	0.009057	0.003056	2.963637	0.006959
B3	0.001417	0.000783	1.810725	0.083267

RESULTS OF REGRESSION FOR VARIABLE INT:
DIVISION #2, BETWEEN 30.00 AND 50.00 (n = 21).

my3

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.105445
R squared = 0.631492 r = 0.794665

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	-0.085134			
B1	0.023495	0.004118	5.706075	0.000017

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.072464	0.759330	0.001935	0.095018	0.761431	0.000000
S'_(n-1)	0.147771	0.480515	0.008047	0.401828	0.534120	0.000000
S'_(n-2)	0.322586	0.357104	0.038348	2.090677	0.165388	0.000000
S'_(n-3)	0.208138	0.763761	0.015964	0.815095	0.378542	0.000000
S'_(n-4)	0.112610	0.986969	0.004673	0.231190	0.636435	0.000000
S'_(n-5)	0.132307	0.952149	0.006451	0.320706	0.578177	0.000000
S'_(n-6)	0.208970	0.803159	0.016092	0.821923	0.376595	0.000000
S'_(n-7)	0.281362	0.711989	0.029173	1.547464	0.229467	0.000000
S'_(n-8)	0.325911	0.687702	0.039142	2.139143	0.160824	0.000000
S'_(n-9)	0.369828	0.871140	0.050402	2.851980	0.108509	1.000000
S'_(n-10)	0.260368	0.976442	0.024982	1.308981	0.267566	0.000000

Partial results of regression (step #2).

Variables in: resp, sum[v_1 S'_(i-n)].
Standard error of regression = 0.100653
R squared = 0.681894 r = 0.825769

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.064225			
B1	0.020942	0.004211	4.973060	0.000098
B2	-0.008196	0.004853	-1.688781	0.108509

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.393457	0.496948	0.049245	3.113779	0.095591	0.419467
(S'_(n-1))^2	0.544536	0.632236	0.094325	7.165546	0.015925	0.580533
(S'_(n-2))^2	0.173985	0.889871	0.009629	0.530669	0.476242	0.000000
(S'_(n-3))^2	0.253427	0.840589	0.020430	1.166763	0.295154	0.000000
(S'_(n-4))^2	0.082650	0.890108	0.002173	0.116925	0.736584	0.000000
(S'_(n-5))^2	0.090987	0.774408	0.002633	0.141911	0.711049	0.000000
(S'_(n-6))^2	0.142734	0.723421	0.006481	0.353546	0.559944	0.000000
(S'_(n-7))^2	0.147875	0.685091	0.006956	0.380048	0.545745	0.000000
(S'_(n-8))^2	0.099466	0.545874	0.003147	0.169871	0.685377	0.000000
(S'_(n-9))^2	0.107062	0.356089	0.003646	0.197120	0.662655	0.000000
(S'_(n-10))^2	0.083942	0.395990	0.002241	0.120637	0.732608	0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_1 S'_(i-n)], sum[w_1, (S'_(i-n))^2)
Standard error of regression = 0.089746
R squared = 0.761149 r = 0.872439

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.327779			
B1	0.012888	0.005060	2.547215	0.020829
B2	-0.011408	0.004534	-2.516195	0.022199
B3	0.001809	0.000762	2.375068	0.029579

RESULTS OF REGRESSION FOR VARIABLE INT:
DIVISION #3, BETWEEN 50.00 AND 100.00 (n = 40).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.048664
R squared = 0.472724 r = 0.687549

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	1.261777			
B1	-0.003038	0.000520	-5.836823	0.000001

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.206384	0.352983	0.022459	1.646110	0.207468	0.000000
S'_(n-1)	0.414336	0.321145	0.090520	7.668433	0.008732	0.156866

S'_(n-2)	0.637915	0.612973	0.214567	25.387777	0.000013	0.241512
S'_(n-3)	0.622613	0.999169	0.204397	23.422706	0.000023	0.235719
S'_(n-4)	0.584469	0.658137	0.180120	19.197197	0.000093	0.221278
S'_(n-5)	0.382000	0.390959	0.076942	6.321676	0.016405	0.144624
S'_(n-6)	0.080884	0.426340	0.003450	0.243657	0.624495	0.000000
S'_(n-7)	0.027546	0.654713	0.000400	0.028096	0.867796	0.000000
S'_(n-8)	0.068581	0.999918	0.002480	0.174847	0.678257	0.000000
S'_(n-9)	0.196630	0.751118	0.020386	1.488077	0.230234	0.000000
S'_(n-10)	0.141158	0.563633	0.010506	0.752232	0.391361	0.000000

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.038968
R squared = 0.670789 r = 0.819017

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	1.229214			
B1	-0.002970	0.000417	-7.121640	0.000000
B2	0.008051	0.001706	4.718111	0.000034

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.229974	0.922528	0.017411	2.010289	0.164834	0.000000
(S'_(n-1))^2	0.370770	0.763289	0.045257	5.737681	0.021930	0.526676
(S'_(n-2))^2	0.333211	0.533630	0.036552	4.496287	0.040927	0.473324
(S'_(n-3))^2	0.057680	0.354555	0.001095	0.120171	0.730867	0.000000
(S'_(n-4))^2	0.185012	0.395396	0.011269	1.275932	0.266127	0.000000
(S'_(n-5))^2	0.068116	0.890696	0.001527	0.167809	0.684494	0.000000
(S'_(n-6))^2	0.016247	0.995261	0.000087	0.009505	0.922874	0.000000

(S'_(n-7))^2	0.180027	0.905647	0.010670	1.205832	0.279450	0.000000
(S'_(n-8))^2	0.200497	0.903706	0.013234	1.507774	0.227447	0.000000
(S'_(n-9))^2	0.075634	0.657700	0.001883	0.207122	0.651765	0.000000
(S'_(n-10))^2	0.043192	0.713027	0.000614	0.067286	0.796808	0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum[w_i, [S'_(i-n)]^2]
Standard error of regression = 0.036482
R squared = 0.719264 r = 0.848094

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	1.288838			
B1	-0.003559	0.000456	-7.798281	0.000000
B2	0.009605	0.001715	5.601251	0.000002
B3	-0.000508	0.000204	-2.493214	0.017394

OVERALL REGRESSION FOR INT:
REGRESSION EQUATION = I_n = b0 + b1 (phi) + b2 SUM(v S') + b3 SUM (w S'^2)
R squared = 0.881295, r = 0.938773, p = 0.000000.

RESULTS OF REGRESSION FOR VARIABLE P1:
DIVISION #1, BETWEEN 0.00 AND 17.00 (n = 16).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.011326
R squared = 0.554569 r = 0.744694

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.022465			
B1	0.002421	0.000580	4.174957	0.000935

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.054498	0.875053	0.001323	0.038726	0.847036	0.000000
S'_(n-1)	0.213208	0.968266	0.020248	0.619092	0.445492	0.490576
S'_(n-2)	0.194763	0.999803	0.016896	0.512565	0.486692	0.000000
S'_(n-3)	0.221400	0.908893	0.021834	0.670077	0.427776	0.509424
S'_(n-4)	0.128148	0.855814	0.007315	0.217050	0.649006	0.000000
S'_(n-5)	0.048341	0.850020	0.001041	0.030450	0.864162	0.000000
S'_(n-6)	0.127581	0.987305	0.007250	0.215100	0.650469	0.000000
S'_(n-7)	0.165866	0.868824	0.012254	0.367766	0.554667	0.000000
S'_(n-8)	0.101842	0.447687	0.004620	0.136246	0.717984	0.000000
S'_(n-9)	0.151588	0.435995	0.010235	0.305750	0.589682	0.000000
S'_(n-10)	0.138554	0.747721	0.008551	0.254447	0.622402	0.000000

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.011449
R squared = 0.577386 r = 0.759859

	COEF	STD ERROR	T-VALUE	P-LEVEL

my3

B0	0.025238			
B1	0.002483	0.000591	4.202756	0.001034
B2	0.000868	0.001036	0.837762	0.417301

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.344740	0.371373	0.050226	1.618495	0.227402	1.000000
(S'_(n-1))^2	0.105622	0.077438	0.004715	0.135382	0.719324	0.000000
(S'_(n-2))^2	0.061444	0.071346	0.001596	0.045476	0.834711	0.000000
(S'_(n-3))^2	0.128870	0.355237	0.007019	0.202656	0.660611	0.000000
(S'_(n-4))^2	0.155024	0.925490	0.010156	0.295490	0.596678	0.000000
(S'_(n-5))^2	0.128403	0.342495	0.006968	0.201166	0.661773	0.000000
(S'_(n-6))^2	0.179625	0.281745	0.013636	0.400093	0.538907	0.000000
(S'_(n-7))^2	0.010972	0.244525	0.000051	0.001445	0.970305	0.000000
(S'_(n-8))^2	0.000315	0.310841	0.000000	0.000001	0.999146	0.000000
(S'_(n-9))^2	0.310931	0.884647	0.040858	1.284299	0.279236	0.000000
(S'_(n-10))^2	0.265902	0.524047	0.029880	0.912998	0.358174	0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum[w_i, (S'_(i-n))^2)
Standard error of regression = 0.011186
R squared = 0.627611 r = 0.792219

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.016393			
B1	0.003019	0.000715	4.224510	0.001179
B2	0.002363	0.001551	1.523455	0.153555
B3	0.000236	0.000185	1.272201	0.227402

RESULTS OF REGRESSION FOR VARIABLE P1:
DIVISION #2, BETWEEN 17.00 AND 28.00 (n = 11).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.019100
R squared = 0.219570 r = 0.468583

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.110004			
B1	-0.002922	0.001836	-1.591258	0.146015

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.608066	0.509012	0.288559	4.693251	0.062167	0.335369
S'_(n-1)	0.308223	0.746181	0.074142	0.839794	0.386247	0.000000
S'_(n-2)	0.039163	0.976401	0.001197	0.012289	0.914463	0.000000
S'_(n-3)	0.209046	0.999518	0.034105	0.365578	0.562177	0.000000
S'_(n-4)	0.417855	0.951359	0.136265	1.692302	0.229515	0.000000
S'_(n-5)	0.601798	0.861378	0.282641	4.542351	0.065662	0.331912
S'_(n-6)	0.603260	0.769422	0.284016	4.577082	0.064836	0.332719
S'_(n-7)	0.452824	0.927607	0.160027	2.063520	0.188791	0.000000
S'_(n-8)	0.183328	0.997794	0.026230	0.278223	0.612179	0.000000

S'_(n-9)	0.052389	0.591886	0.002142	0.022017	0.885713	0.000000
S'_(n-10)	0.317911	0.516164	0.078876	0.899444	0.370695	0.000000

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.018595
R squared = 0.342490 r = 0.585226

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.103918			
B1	-0.002652	0.001801	-1.472065	0.179217
B2	0.002743	0.002243	1.222937	0.256154

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.354089	0.440383	0.082438	1.003468	0.349835	0.000000
(S'_(n-1))^2	0.521236	0.648139	0.178637	2.611253	0.150142	0.000000
(S'_(n-2))^2	0.530005	0.313680	0.184698	2.734465	0.142182	1.000000
(S'_(n-3))^2	0.332848	0.145236	0.072844	0.872138	0.381450	0.000000
(S'_(n-4))^2	0.005052	0.080885	0.000017	0.000179	0.989709	0.000000
(S'_(n-5))^2	0.057935	0.561126	0.002207	0.023574	0.882305	0.000000
(S'_(n-6))^2	0.431987	0.612183	0.122700	1.605985	0.245586	0.000000
(S'_(n-7))^2	0.345496	0.217748	0.078486	0.948834	0.362467	0.000000
(S'_(n-8))^2	0.238918	0.474085	0.037532	0.423761	0.535842	0.000000
(S'_(n-9))^2	0.464828	0.365263	0.142065	1.929312	0.207419	0.000000

(S'_(n-10))^2	0.422636	0.711817	0.117445	1.522257	0.257093	0.000000

Final results of regression (step #3).

Variables in: resp, sum(v_i S'_(i-n)], sum(w_i, (S'_(i-n)]^2)
Standard error of regression = 0.016857
R squared = 0.527188 r = 0.726077

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.052156			
B1	-0.001603	0.001752	-0.914663	0.390787
B2	0.007666	0.003605	2.126362	0.071051
B3	0.000663	0.000401	1.653622	0.142182

RESULTS OF REGRESSION FOR VARIABLE P1:
DIVISION #3, BETWEEN 28.00 AND 40.00 (n = 14).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.005440
R squared = 0.140602 r = 0.374970

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.006291			
B1	0.000599	0.000428	1.401167	0.186492

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.221956	0.941455	0.042338	0.569988	0.466121	0.000000
S'_(n-1)	0.045034	0.795300	0.001743	0.022354	0.883855	0.000000
S'_(n-2)	0.282453	0.744947	0.068562	0.953656	0.349778	0.000000
S'_(n-3)	0.291846	0.996464	0.073198	1.024144	0.333281	0.000000
S'_(n-4)	0.359413	0.995489	0.111015	1.631735	0.227766	0.000000
S'_(n-5)	0.377476	0.999919	0.122454	1.827811	0.203530	0.000000
S'_(n-6)	0.123475	0.918603	0.013102	0.170303	0.687772	0.000000
S'_(n-7)	0.209735	0.852849	0.037804	0.506139	0.491627	0.000000
S'_(n-8)	0.428248	0.829798	0.157610	2.470425	0.144308	0.000000
S'_(n-9)	0.508008	0.983262	0.221786	3.826231	0.076323	0.511306
S'_(n-10)	0.485542	0.989357	0.202604	3.393212	0.092563	0.488694

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.004909
R squared = 0.358506 r = 0.598754

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.011101			
B1	0.000582	0.000386	1.508055	0.159712
B2	-0.000570	0.000295	-1.933004	0.079380

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.696118	0.653482	0.310855	9.401661	0.011918	0.513462
(S'_(n-1))^2	0.659615	0.851840	0.279109	7.701997	0.019610	0.486538
(S'_(n-2))^2	0.244349	0.624624	0.038301	0.634978	0.444043	0.000000
(S'_(n-3))^2	0.366355	0.992345	0.086099	1.550222	0.241489	0.000000
(S'_(n-4))^2	0.360661	0.998001	0.083443	1.495264	0.249437	0.000000
(S'_(n-5))^2	0.306733	0.923434	0.060355	1.038565	0.332177	0.000000
(S'_(n-6))^2	0.093521	0.973972	0.005611	0.088234	0.772513	0.000000
(S'_(n-7))^2	0.356010	0.820207	0.081305	1.451380	0.256044	0.000000
(S'_(n-8))^2	0.275764	0.629569	0.048783	0.823050	0.385630	0.000000
(S'_(n-9))^2	0.258403	0.619831	0.042834	0.715496	0.417406	0.000000
(S'_(n-10))^2	0.228547	0.381768	0.033507	0.551123	0.474936	0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum(w_i, (S'_(i-n)]^2)
Standard error of regression = 0.003623
R squared = 0.682346 r = 0.826043

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.026417			
B1	0.000041	0.000332	0.125003	0.902998
B2	-0.000569	0.000218	-2.612963	0.025909
B3	0.000137	0.000043	3.192921	0.009606

RESULTS OF REGRESSION FOR VARIABLE P1:
DIVISION #4, BETWEEN 40.00 AND 100.00 (n = 47).

Partial results of regression (step #1).

my3

Variables in: resp.
Standard error of regression = 0.003240
R squared = 0.019315 r = 0.138978

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.038400			
B1	-0.000025	0.000026	-0.941430	0.351511

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.137746	0.274826	0.018607	0.851000	0.361301	0.000000
S'_(n-1)	0.159662	0.376624	0.025000	1.150992	0.289191	0.000000
S'_(n-2)	0.196582	0.803913	0.037898	1.768712	0.190395	0.000000
S'_(n-3)	0.136943	0.908197	0.018391	0.840920	0.364133	0.000000
S'_(n-4)	0.168366	0.465543	0.027800	1.283663	0.263355	0.000000
S'_(n-5)	0.018763	0.363182	0.000345	0.015495	0.901502	0.000000
S'_(n-6)	0.106455	0.486364	0.011114	0.504356	0.481340	0.000000
S'_(n-7)	0.027035	0.782143	0.000717	0.032182	0.858453	0.000000
S'_(n-8)	0.106971	0.945055	0.011222	0.509312	0.479205	0.000000
S'_(n-9)	0.255960	0.570019	0.064250	3.084787	0.085986	1.000000
S'_(n-10)	0.174644	0.396631	0.029911	1.384245	0.245705	0.000000

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.003168
R squared = 0.083565 r = 0.289076

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.036231			
B1	0.000015	0.000034	0.424639	0.673169
B2	0.000248	0.000141	1.756356	0.085986

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.043218	0.728761	0.001712	0.080465	0.778030	0.000000
(S'_(n-1))^2	0.117144	0.696689	0.012576	0.598290	0.443463	0.000000
(S'_(n-2))^2	0.090713	0.939866	0.007541	0.356780	0.553432	0.000000
(S'_(n-3))^2	0.029320	0.932225	0.000788	0.036997	0.848377	0.000000
(S'_(n-4))^2	0.115748	0.828386	0.012278	0.583917	0.448954	0.000000
(S'_(n-5))^2	0.048272	0.926542	0.002135	0.100430	0.752848	0.000000
(S'_(n-6))^2	0.101020	0.984159	0.009352	0.443339	0.509071	0.000000
(S'_(n-7))^2	0.232751	0.668150	0.049646	2.462858	0.123897	0.000000
(S'_(n-8))^2	0.461438	0.423536	0.195132	11.632687	0.001421	1.000000
(S'_(n-9))^2	0.199437	0.715361	0.036451	1.781172	0.189030	0.000000
(S'_(n-10))^2	0.008887	0.898596	0.000072	0.003396	0.953799	0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum[w_i, [S'_(i-n)]^2]
Standard error of regression = 0.002843
R squared = 0.278697 r = 0.527918

	COEF	STD ERROR	T-VALUE	P-LEVEL

B0	0.031288			
B1	0.000067	0.000034	1.951584	0.057521
B2	0.000735	0.000191	3.849070	0.000388
B3	0.000091	0.000027	3.410673	0.001421

OVERALL REGRESSION FOR P1:
REGRESSION EQUATION = 1/P1 = b0 + b1 (phi) + b2 SUM(v S') + b3 SUM (w S'^2)
R squared = 0.681895, r = 0.825770, p = 0.000000.

RESULTS OF REGRESSION FOR VARIABLE P2:
DIVISION #1, BETWEEN 0.00 AND 27.00 (n = 26).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.002310
R squared = 0.168886 r = 0.410958

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.012228			
B1	-0.000134	0.000061	-2.208372	0.037017

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.024473	0.663138	0.000498	0.013784	0.907560	0.000000
S'_(n-1)	0.261906	0.999238	0.057010	1.693875	0.205977	0.000000
S'_(n-2)	0.401920	0.956793	0.134258	4.431232	0.046414	0.186130
S'_(n-3)	0.480698	0.805297	0.192046	6.911711	0.015001	0.222612

S'_(n-4)	0.482743	0.659101	0.193684	6.988573	0.014517	0.223560
S'_(n-5)	0.439442	0.644893	0.160496	5.504494	0.027954	0.203507
S'_(n-6)	0.354545	0.827142	0.104473	3.306828	0.082040	0.164191
S'_(n-7)	0.242682	0.978920	0.048948	1.439348	0.242458	0.000000
S'_(n-8)	0.100369	0.488924	0.008373	0.234058	0.633106	0.000000
S'_(n-9)	0.040960	0.257867	0.001394	0.038652	0.845867	0.000000
S'_(n-10)	0.083860	0.359945	0.005845	0.162891	0.690236	0.000000

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.002092
R squared = 0.347002 r = 0.589069

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.011090			
B1	-0.000052	0.000064	-0.808988	0.426812
B2	0.000311	0.000124	2.504725	0.019787

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.087101	0.624951	0.004954	0.168181	0.685700	0.000000
(S'_(n-1))^2	0.066273	0.497296	0.002868	0.097053	0.758329	0.000000
(S'_(n-2))^2	0.106656	0.163698	0.007428	0.253140	0.619873	0.000000
(S'_(n-3))^2	0.259607	0.159602	0.044009	1.589851	0.220556	0.000000
(S'_(n-4))^2	0.364335	0.904189	0.086679	3.367246	0.080063	1.000000

(S'_(n-5))^2	0.281138	0.517363	0.051612	1.888073	0.183258	0.000000
(S'_(n-6))^2	0.224520	0.300486	0.032917	1.167878	0.291543	0.000000
(S'_(n-7))^2	0.058870	0.323842	0.002263	0.076511	0.784664	0.000000
(S'_(n-8))^2	0.241625	0.333166	0.038124	1.364053	0.255338	0.000000
(S'_(n-9))^2	0.218867	0.764717	0.031280	1.106881	0.304180	0.000000
(S'_(n-10))^2	0.270645	0.750007	0.047831	1.738840	0.200849	0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum[w_i, [S'_(i-n)]^2]
Standard error of regression = 0.001992
R squared = 0.433681 r = 0.658545

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.009970			
B1	-0.000028	0.000062	-0.448720	0.658022
B2	0.000380	0.000124	3.065073	0.005669
B3	0.000036	0.000020	1.835006	0.080063

RESULTS OF REGRESSION FOR VARIABLE P2:
DIVISION #2, BETWEEN 27.00 AND 50.00 (n = 22).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.002511
R squared = 0.676891 r = 0.822734

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	-0.011534			
B1	0.000583	0.000090	6.472918	0.000003

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.159355	0.765187	0.008205	0.495060	0.490212	0.000000
S'_(n-1)	0.368273	0.491712	0.043822	2.981192	0.100461	0.000000
S'_(n-2)	0.409715	0.349188	0.054239	3.832869	0.065108	1.000000
S'_(n-3)	0.074022	0.754692	0.001770	0.104680	0.749818	0.000000
S'_(n-4)	0.120182	0.998054	0.004667	0.278454	0.603825	0.000000
S'_(n-5)	0.110596	0.974843	0.003952	0.235275	0.633185	0.000000
S'_(n-6)	0.165692	0.867307	0.008871	0.536348	0.472889	0.000000
S'_(n-7)	0.157552	0.744367	0.008020	0.483637	0.495198	0.000000
S'_(n-8)	0.190923	0.711006	0.011778	0.718781	0.407098	0.000000
S'_(n-9)	0.120033	0.870301	0.004655	0.277754	0.604277	0.000000
S'_(n-10)	0.069411	0.973672	0.001557	0.091982	0.764968	0.000000

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.002350
R squared = 0.731130 r = 0.855062

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	-0.002230			
B1	0.000358	0.000143	2.507520	0.021398

my3

B2	0.000354	0.000181	1.957771	0.065108

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.178018	0.388286	0.008521	0.589098	0.452719	0.000000
(S'_(n-1))^2	0.288747	0.436723	0.022417	1.637257	0.216950	0.000000
(S'_(n-2))^2	0.054969	0.865431	0.000812	0.054554	0.817956	0.000000
(S'_(n-3))^2	0.040866	0.624213	0.000449	0.030111	0.864176	0.000000
(S'_(n-4))^2	0.325348	0.794853	0.028460	2.130877	0.161591	0.000000
(S'_(n-5))^2	0.384317	0.766714	0.039712	3.119306	0.094324	1.000000
(S'_(n-6))^2	0.318848	0.866982	0.027334	2.037054	0.170625	0.000000
(S'_(n-7))^2	0.168629	0.967998	0.007646	0.526825	0.477277	0.000000
(S'_(n-8))^2	0.183989	0.675817	0.009102	0.630688	0.437449	0.000000
(S'_(n-9))^2	0.311564	0.678471	0.026100	1.935146	0.181154	0.000000
(S'_(n-10))^2	0.363465	0.667775	0.035520	2.739887	0.115202	0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum[w_i, (S'_(i-n))^2)
Standard error of regression = 0.002229
R squared = 0.770842 r = 0.877976

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.001815			
B1	0.000230	0.000154	1.496877	0.151755
B2	0.000509	0.000193	2.641286	0.016591
B3	0.000040	0.000023	1.766156	0.094324

RESULTS OF REGRESSION FOR VARIABLE P2:
DIVISION #3, BETWEEN 50.00 AND 100.00 (n = 40).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.001574
R squared = 0.216327 r = 0.465110

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.017943			
B1	-0.000055	0.000017	-3.238767	0.002495

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.131021	0.352983	0.013453	0.646250	0.426592	0.000000
S'_(n-1)	0.342566	0.321145	0.091965	4.919305	0.032778	0.187201
S'_(n-2)	0.509264	0.612973	0.203245	12.956081	0.000929	0.278295
S'_(n-3)	0.503384	0.999169	0.198579	12.557692	0.001089	0.275082
S'_(n-4)	0.474727	0.658137	0.176613	10.764487	0.002261	0.259422
S'_(n-5)	0.200439	0.390959	0.031485	1.548724	0.221150	0.000000
S'_(n-6)	0.076806	0.426340	0.004623	0.219564	0.642121	0.000000
S'_(n-7)	0.158043	0.654713	0.019574	0.947849	0.336590	0.000000
S'_(n-8)	0.052420	0.999918	0.002153	0.101951	0.751296	0.000000
S'_(n-9)	0.134440	0.751118	0.014164	0.681047	0.414516	0.000000
S'_(n-10)	0.101794	0.563633	0.008120	0.387408	0.537482	0.000000

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.001374
R squared = 0.418470 r = 0.646893

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.016097			
B1	-0.000041	0.000015	-2.695399	0.010514
B2	0.000210	0.000058	3.586281	0.000965

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.241608	0.915668	0.033946	2.231753	0.143914	0.000000
(S'_(n-1))^2	0.298797	0.762666	0.051919	3.529140	0.068416	0.436290
(S'_(n-2))^2	0.386062	0.518462	0.086673	6.305337	0.016667	0.563710
(S'_(n-3))^2	0.139305	0.359678	0.011285	0.712439	0.404210	0.000000
(S'_(n-4))^2	0.085421	0.429948	0.004243	0.264612	0.610113	0.000000
(S'_(n-5))^2	0.059814	0.899156	0.002081	0.129261	0.721300	0.000000
(S'_(n-6))^2	0.026792	0.996851	0.000417	0.025860	0.873142	0.000000
(S'_(n-7))^2	0.146751	0.913141	0.012524	0.792351	0.379301	0.000000
(S'_(n-8))^2	0.251793	0.910328	0.036869	2.436881	0.127261	0.000000
(S'_(n-9))^2	0.023199	0.645680	0.000496	0.030710	0.861849	0.000000
(S'_(n-10))^2	0.048529	0.685417	0.001370	0.084981	0.772330	0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum[w_i, (S'_(i-n))^2)
Standard error of regression = 0.001292

my3

R squared = 0.499834 r = 0.706990

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.017852			
B1	-0.000058	0.000016	-3.639414	0.000851
B2	0.000272	0.000061	4.482244	0.000072
B3	-0.000018	0.000007	-2.419976	0.020697

OVERALL REGRESSION FOR P2:
REGRESSION EQUATION = 1/P2 = b0 + b1 (phi) + b2 SUM(v S') + b3 SUM (w S'^2)
R squared = 0.732431, r = 0.855822, p = 0.000000.

Results of detrending for pp :
Division #1, between 0.00 and 15.00 (n = 11).
Detrending equation: PP = b0 + b1 (PHI)
Standard error of regression = 3.250429
R squared = 0.176539 r = 0.420166

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	1.139227	2.638181	0.431823	0.675032
B1	-0.456029	0.311454	-1.464195	0.173856

Results of detrending for pp :
Division #2, between 15.00 and 57.00 (n = 48).

Detrending equation: PP = b0 + b1 (PHI)
Standard error of regression = 2.441094
R squared = 0.530766 r = 0.728537

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	-7.800921	1.047862	-7.444611	0.000000
B1	0.205217	0.028450	7.213328	0.000000

Results of detrending for pp :
Division #3, between 57.00 and 100.00 (n = 38).
Detrending equation: PP = b0 + b1 (PHI)
Standard error of regression = 2.181330
R squared = 0.383113 r = 0.618961

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	12.396702	2.301785	5.385690	0.000005
B1	-0.132425	0.028007	-4.728377	0.000034

Overall detrending for pp:
R squared = 0.536253, r = 0.732293, p = 0.000000.

Results of detrending for int :
Division #1, between 0.00 and 30.00 (n = 27).
Detrending equation: INT = b0 + b1 (PHI)
Standard error of regression = 0.059638
R squared = 0.554192 r = 0.744441

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.020271	0.025397	0.798169	0.431490
B1	-0.008426	0.001428	-5.899777	0.000002

Results of detrending for int :
Division #2, between 30.00 and 50.00 (n = 21).
Detrending equation: INT = b0 + b1 (PHI)
Standard error of regression = 0.107056
R squared = 0.575766 r = 0.758793

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	-0.913013	0.154767	-5.899286	0.000006
B1	0.021285	0.003895	5.464265	0.000017

Results of detrending for int :
Division #3, between 50.00 and 100.00 (n = 40).
Detrending equation: INT = b0 + b1 (PHI)
Standard error of regression = 0.052285
R squared = 0.355788 r = 0.596479

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.321073	0.042523	7.550548	0.000000
B1	-0.002589	0.000538	-4.816212	0.000019

my3

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Overall detrending for int:
R squared = 0.784307, r = 0.885611, p = 0.000000.

Results of detrending for p1 :
Division #1, between 0.00 and 17.00 (n = 16).
Detrending equation: P1 = b0 + b1 (PHI)
Standard error of regression = 5.925122
R squared = 0.447193  r = 0.668725

                COEF        STD ERROR     T-VALUE     P-LEVEL
B0          5.571769         3.417760    1.630240    0.122576
B1         -1.030644         0.286476   -3.597664    0.002411


Results of detrending for p1 :
Division #2, between 17.00 and 28.00 (n = 11).
Detrending equation: P1 = b0 + b1 (PHI)
Standard error of regression = 15.485592
R squared = 0.168587  r = 0.410594

                COEF        STD ERROR     T-VALUE     P-LEVEL
B0        -48.818106        35.525576   -1.374168    0.199403
B1          2.105689         1.478736    1.423979    0.184899


Results of detrending for p1 :
Division #3, between 28.00 and 40.00 (n = 14).
Detrending equation: P1 = b0 + b1 (PHI)
Standard error of regression = 6.399310
R squared = 0.150319  r = 0.387710

                COEF        STD ERROR     T-VALUE     P-LEVEL
B0         35.226285        16.896174    2.084867    0.055874
B1         -0.736594         0.468042   -1.573776    0.137861


Results of detrending for p1 :
Division #4, between 40.00 and 100.00 (n = 47).
Detrending equation: P1 = b0 + b1 (PHI)
Standard error of regression = 2.549129
R squared = 0.024420  r = 0.156270

                COEF        STD ERROR     T-VALUE     P-LEVEL
B0         -2.684261         1.500053   -1.789444    0.079601
B1          0.022382         0.020007    1.118740    0.268597


Overall detrending for p1:
R squared = 0.431772, r = 0.657094, p = 0.000000.

Results of detrending for p2 :
Division #1, between 0.00 and 27.00 (n = 26).
Detrending equation: P2 = b0 + b1 (PHI)
Standard error of regression = 26.010728
R squared = 0.139121  r = 0.372989



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                COEF        STD ERROR     T-VALUE     P-LEVEL
B0         -8.231028        11.277724   -0.729848    0.471768
B1          1.359777         0.650970    2.088848    0.046280


Results of detrending for p2 :
Division #2, between 27.00 and 50.00 (n = 22).
Detrending equation: P2 = b0 + b1 (PHI)
Standard error of regression = 20.815098
R squared = 0.729078  r = 0.853861

                COEF        STD ERROR     T-VALUE     P-LEVEL
B0        228.693292        27.617862    8.280630    0.000000
B1         -5.524617         0.702220   -7.867364    0.000000


Results of detrending for p2 :
Division #3, between 50.00 and 100.00 (n = 40).
Detrending equation: P2 = b0 + b1 (PHI)
Standard error of regression = 13.470184
R squared = 0.151299  r = 0.388971

                COEF        STD ERROR     T-VALUE     P-LEVEL
B0        -45.958451        10.955265   -4.195102    0.000138
B1          0.378985         0.138502    2.736307    0.009067


Overall detrending for p2:
R squared = 0.595944, r = 0.771974, p = 0.000000.

Results of linear model for pp :
Linear model equation: PP = b0 + b1 (I_n-1) + b2 (D_n)
Standard error of linear model = 2.229340
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my3

R squared = 0.135615 r = 0.368259

	COEF	STD ERROR	T-VALUE	P
B0	46.287767	4.258030	10.870701	0.000000
B1	13.158062	3.462189	3.800504	0.000256
B2	0.035135	0.046963	0.748134	0.456247

Overall results of linear modelling of pp
after retrending: R-squared = 0.606737, r = 0.778933.

Results of linear model for int :
Linear model equation: INT = b0 + b1 (S_n) + ... + b(1+m) (S_n-m)
Standard error of linear model = 0.063690
R squared = 0.199781 r = 0.446968

	COEF	STD ERROR	T-VALUE	P
B0	0.358784	0.258938	1.385599	0.169332
B1	-0.000969	0.004078	-0.237614	0.812727
B2	-0.000938	0.005876	-0.159596	0.873561
B3	0.009805	0.005979	1.639839	0.104569
B4	-0.002786	0.005997	-0.464520	0.643410
B5	-0.009894	0.006026	-1.641927	0.104134

B6	0.017551	0.005884	2.982901	0.003684
B7	-0.008640	0.005872	-1.471463	0.144693
B8	-0.000487	0.005849	-0.083244	0.933844
B9	0.002718	0.005723	0.474878	0.636037
B10	-0.000043	0.005671	-0.007497	0.994035
B11	-0.000983	0.004031	-0.243949	0.807832

Overall results of linear modelling of int
after retrending: R-squared = 0.840434, r = 0.916752.

Results of linear model for p1 :
Linear model equation: P1 = b0 + b1 (S_n) + ... + b(1+m) (S_n-m)
Standard error of linear model = 6.268812
R squared = 0.105438 r = 0.324713

	COEF	STD ERROR	T-VALUE	P
B0	57.053978	25.486395	2.238605	0.027676
B1	0.536324	0.401391	1.336164	0.184902
B2	-0.429374	0.578387	-0.742365	0.459821
B3	-0.344887	0.588490	-0.586055	0.559322
B4	0.472202	0.590229	0.800031	0.425823
B5	0.033188	0.593083	0.055959	0.955500
B6	-0.736281	0.579143	-1.271329	0.206924
B7	0.866997	0.577941	1.500148	0.137115
B8	-0.723533	0.575696	-1.256796	0.212116
B9	-0.047420	0.563341	-0.084177	0.933105
B10	0.347266	0.558201	0.622116	0.535456
B11	-0.248267	0.396792	-0.625686	0.533122

Overall results of linear modelling of p1
after retrending: R-squared = 0.503634, r = 0.709672.

Results of linear model for p2 :
Linear model equation: P2 = b0 + b1 (S_n) + ... + b(1+m) (S_n-m)
Standard error of linear model = 19.924039
R squared = 0.086422 r = 0.293975

	COEF	STD ERROR	T-VALUE	P
B0	215.279319	81.002891	2.657674	0.009327
B1	0.629280	1.275733	0.493269	0.623037
B2	-1.292813	1.838274	-0.703275	0.483720
B3	-0.585255	1.870385	-0.312906	0.755084
B4	1.302823	1.875913	0.694501	0.489177
B5	-0.259552	1.884983	-0.137695	0.890793
B6	-2.089368	1.840678	-1.135108	0.259378
B7	1.803373	1.836857	0.981771	0.328874
B8	-1.198833	1.829724	-0.655199	0.514030
B9	0.665815	1.790456	0.371869	0.710874
B10	-0.329177	1.774118	-0.185544	0.853225
B11	0.144992	1.261117	0.114971	0.908727

Overall results of linear modelling of p2
after retrending: R-squared = 0.622966, r = 0.789282.

my3

Results of linear model for diast :
Linear model equation: D_n+1 = b0 + b1(D) + b2(D') + b3(D'') + b4(PP) + b5(INT) + b6(P1) + b7(P2)
Standard error of linear model = 2.785462
R squared = 0.727667 r = 0.853034

	COEF	STD ERROR	T-VALUE	P
B0	6.950702	9.975581	0.696772	0.487762
B1	0.517511	0.093615	5.528099	0.000000
B2	-0.063587	0.021722	-2.927323	0.004340
B3	0.003915	0.001199	3.265167	0.001554
B4	0.414275	0.131544	3.149323	0.002228
B5	-13.791860	5.754926	-2.396531	0.018644
B6	-0.211042	0.072573	-2.908005	0.004592
B7	0.059301	0.028711	2.065467	0.041787

Results of linear model for ddiast :
Linear model equation: D'_n+1 = b0 + b1(D) + b2(D') + b3(D'') + b4(PP) + b5(INT) + b6(P1) + b7(P2)
Standard error of linear model = 17.541099
R squared = 0.125829 r = 0.354723

	COEF	STD ERROR	T-VALUE	P
B0	-22.162421	62.819966	-0.352793	0.725078
B1	-0.073363	0.589526	-0.124443	0.901245
B2	-0.032736	0.136791	-0.239316	0.811411
B3	-0.003593	0.007551	-0.475837	0.635357
B4	0.045214	0.828382	0.054581	0.956594
B5	19.400946	36.240923	0.535333	0.593755
B6	0.197755	0.457018	0.432708	0.666274
B7	-0.299749	0.180803	-1.657879	0.100863

Results of linear model for dddiast :
Linear model equation: D''_n+1 = b0 + b1(D) + b2(D') + b3(D'') + b4(PP) + b5(INT) + b6(P1) + b7(P2)
Standard error of linear model = 381.453344
R squared = 0.269465 r = 0.519100

	COEF	STD ERROR	T-VALUE	P
B0	-1236.884708	1366.099448	-0.905413	0.367691
B1	-0.700906	12.813989	-0.054673	0.956522
B2	-8.994227	2.974694	-3.023581	0.003263
B3	0.494027	0.164198	3.008716	0.003412
B4	11.717695	18.014210	0.650470	0.517065
B5	246.410816	788.104608	0.312663	0.755268
B6	-14.653430	9.938430	-1.474421	0.143897
B7	6.507082	3.931780	1.654996	0.101448

Results of windkessel model for diast :
Overall results for diast:
R-squared = 0.910884, r = 0.954403.

NONLINEAR FORECAST RESULTS (In-sample, n = 78):

STEP	PP	INT	P1	P2	DIAST
0	0.846111	0.941567	0.730072	0.774335	1.000000
1	0.506725	0.656809	0.081613	0.750413	0.689303
2	0.265316	0.190017	-0.023866	0.696029	0.630372

3	0.309119	-0.108660	-0.046356	-0.000825	0.489102
4	0.592818	-0.077757	-0.080148	0.043436	0.398026
5	0.632361	-0.082725	-0.194120	0.085368	0.429801
6	0.603539	-0.018553	-0.049393	0.026403	0.368689
7	0.488394	0.026719	-0.065934	0.240115	0.143725
8	0.374352	-0.012080	-0.330348	-0.037653	0.386482
9	0.461376	-0.039178	-0.180137	-0.060896	0.240185
10	0.368540	0.091298	-0.263655	0.267615	0.199651

NONLINEAR FORECAST RESULTS (Out-of-sample, n = 148):

STEP	PP	INT	P1	P2	DIAST
0	0.438196	0.700830	0.158836	0.601081	1.000000
1	-0.025981	0.360158	0.091731	0.612831	0.275779
2	0.034776	0.047073	0.033998	0.550752	0.291826
3	0.073572	0.034818	-0.093663	-0.081722	0.355187
4	0.249816	0.003185	-0.066233	-0.037926	0.226034
5	0.274713	-0.018298	-0.071832	-0.022508	0.156031
6	0.265580	0.101310	0.033025	-0.026181	-0.061282
7	0.237759	0.072941	0.063537	0.141764	-0.145096
8	0.088330	0.095727	0.048670	0.155427	0.058717
9	0.013999	0.142599	-0.034043	-0.020145	0.224711
10	-0.096133	0.096906	-0.196205	-0.130231	0.246584

LINEAR FORECAST RESULTS (In-sample, n = 78):

STEP	PP	INT	P1	P2	DIAST
0	0.508141	0.114127	-0.210113	0.228645	1.000000
1	0.521189	0.125489	-0.179918	0.215392	0.829796
2	0.523343	0.140458	-0.188260	0.223168	0.509327
3	0.521638	0.151400	-0.157543	0.203806	0.200884
4	0.523131	0.160371	-0.118843	0.194193	0.174459
5	0.511270	0.177674	-0.132434	0.214637	0.221826

my3

6	0.489192	0.166664	-0.134022	0.193963	0.655285
7	0.473783	0.114059	-0.106817	0.159346	0.540360
8	0.438016	0.077072	-0.099890	0.131080	0.328404
9	0.427836	0.060503	-0.102376	0.118430	0.289170
10	0.428839	0.043579	-0.103686	0.117784	0.315162

LINEAR FORECAST RESULTS (Out-of-sample, n = 148):

STEP	PP	INT	P1	P2	DIAST
0	0.514275	0.123982	-0.071011	0.007649	1.000000
1	0.518418	0.126219	-0.047403	0.005581	0.874948
2	0.526409	0.146776	-0.033260	0.023492	0.610942
3	0.538644	0.170345	-0.026230	0.025033	0.334000
4	0.537451	0.186654	-0.031053	0.035723	0.303206
5	0.527965	0.206784	-0.031888	0.031863	0.283912
6	0.511160	0.180997	-0.024723	0.007491	0.582537
7	0.490706	0.160892	-0.014059	-0.007377	0.588082
8	0.473182	0.138323	-0.003210	-0.017815	0.569371
9	0.454598	0.118202	0.005032	-0.030511	0.558979
10	0.443858	0.099828	0.016854	-0.047994	0.510793

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Error analysis for long forecast into file nl16.00:
Errors in p1: 0
Errors in p2: 2
Errors in p5: 0
Post inflection adjustment in p5: 3

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In-sample data for beats 159 through 300 (n = 140):

BEATNO	TIME	INT	DIAS	DIAS'	DIAS''	SYST	PP	P1	P2	P3	P4	P5	P6	RESP

my3

AVG	3447.885	0.308	38.64	-61.66	124.68	143.56	104.92	15.05	71.55	509.35	188677.82	14.41	-0.62	47.99
STDDEV	32.983	0.138	9.50	34.35	749.14	15.84	9.47	3.06	20.61	66.64	21374.56	15.94	14.79	28.87

Out-of-sample data for beats 301 through 424 (n = 123):

BEATNO	TIME	INT	DIAS	DIAS'	DIAS''	SYST	PP	P1	P2	P3	P4	P5	P6	RESP
AVG	3552.588	0.785	40.31	-67.38	191.43	141.78	101.47	15.93	77.96	521.90	187739.19	19.19	3.06	49.80
STDDEV	28.331	0.138	9.60	37.11	660.33	16.56	9.12	3.33	25.31	72.14	22011.05	17.39	15.96	28.70

Results of regression for p3 :
Regression equation: P3 = b0 + b1 (P1) + b2 (P1)^2
Standard error of regression = 24.126311
R squared = 0.870804 r = 0.933169

	COEF	STD ERROR	T-VALUE	P
B0	351.912428	46.045207	7.642759	0.000000
B1	1.645846	5.721646	0.287653	0.774047
B2	0.562747	0.172323	3.265643	0.001380

Results of regression for p4 :
Regression equation: P4 = b0 + b1 (PP)
Standard error of regression = 9119.175261
R squared = 0.819290 r = 0.905147

	COEF	STD ERROR	T-VALUE	P
B0	-25765.798052	8607.818315	-2.993302	0.003271
B1	2043.937270	81.714607	25.013120	0.000000

Results of regression for p5 :
Regression equation: P5 = b0 + b1 (P2) + b2 (P2)^2 + b3 (P2)^3
Standard error of regression = 9.707597
R squared = 0.637115 r = 0.798195

	COEF	STD ERROR	T-VALUE	P
B0	-24.290861	40.494373	-0.599858	0.549599
B1	0.072715	1.485167	0.048961	0.961022
B2	0.011008	0.017327	0.635301	0.526299
B3	-0.000059	0.000064	-0.912137	0.363311

Results of regression for p6 :
Regression equation: P6 = b0 + b1 (P1)
Standard error of regression = 12.051754
R squared = 0.340678 r = 0.583676

	COEF	STD ERROR	T-VALUE	P
B0	-43.062968	5.128844	-8.396233	0.000000
B1	2.820699	0.334037	8.444278	0.000000

Results of regression for pp :
Division #1, between 0.00 and 20.00 (n = 28).
Regression equation: PP = b0 + b1 (PHI) + b2 (I_n-1) + b3 (D)
Standard error of regression = 3.606363
R squared = 0.150523 r = 0.387973

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	77.908733	19.976109	3.900095	0.000678
B1	0.067527	0.187053	0.361006	0.721253
B2	22.897776	16.958831	1.350198	0.189549
B3	-0.024493	0.236089	-0.103744	0.918235

Results of regression for pp :
Division #2, between 20.00 and 57.00 (n = 58).
Regression equation: PP = b0 + b1 (PHI) + b2 (I_n-1) + b3 (D)
Standard error of regression = 3.969765
R squared = 0.834937 r = 0.913749

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	54.554302	6.890715	7.917074	0.000000
B1	0.469955	0.095917	4.899582	0.000009
B2	43.029351	8.100428	5.311985	0.000002
B3	0.114887	0.103247	1.112735	0.270751

Results of regression for pp :
Division #3, between 57.00 and 100.00 (n = 53).
Regression equation: PP = b0 + b1 (PHI) + b2 (I_n-1) + b3 (D)
Standard error of regression = 5.256846
R squared = 0.674982 r = 0.821573

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	105.645789	36.395502	2.902715	0.005531
B1	-0.451982	0.129059	-3.502138	0.000995
B2	36.137265	23.111373	1.563614	0.124344

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B3          0.102472        0.246584    0.415568    0.679541


Overall regression for pp:
R squared = 0.797795, r = 0.893194, p = 0.000000.

RESULTS OF REGRESSION FOR VARIABLE INT:
DIVISION #1, BETWEEN 0.00 AND 32.00 (n = 45).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.035616
R squared = 0.694303  r = 0.833248

               COEF        STD ERROR     T-VALUE     P-LEVEL
B0          0.790418
B1         -0.006201         0.000627   -9.882408    0.000000
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Variables not in model:

           PARTIAL CORR     TOLERANCE          R-SQ       F-VALUE       P-LEVEL    NEW WEIGHT
S'_(n-0 )      0.242586      0.540494      0.017990      2.626162      0.112600      0.000000
S'_(n-1 )      0.348615      0.951745      0.037152      5.810523      0.020386      0.081647
S'_(n-2 )      0.294979      0.862122      0.026599      4.002814      0.051916      0.069085
S'_(n-3 )      0.475740      0.639994      0.069188     12.286586      0.001099      0.111420
S'_(n-4 )      0.529061      0.370943      0.085566     16.325658      0.000222      0.123908
S'_(n-5 )      0.481242      0.215443      0.070798     12.658576      0.000943      0.112709
S'_(n-6 )      0.086997      0.223988      0.002314      0.320304      0.574437      0.000000
S'_(n-7 )      0.362767      0.550429      0.040230      6.364791      0.015515      0.084962
S'_(n-8 )      0.587715      0.957535      0.105591     22.162169      0.000027      0.137645
S'_(n-9 )      0.618827      0.522346      0.117066     26.065492      0.000008      0.144932
S'_(n-10)      0.570828      0.432573      0.099610     20.300162      0.000052      0.133690

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.033428
R squared = 0.736969  r = 0.858469

               COEF        STD ERROR     T-VALUE     P-LEVEL
B0          0.808890
B1         -0.006575         0.000606  -10.847802    0.000000
B2         -0.005203         0.001993   -2.610132    0.012491

Variables not in model:

                 PARTIAL CORR     TOLERANCE          R-SQ       F-VALUE       P-LEVEL    NEW WEIGHT
(S'_(n-0 ))^2        0.166863      0.638935      0.007324      1.174273      0.284857      0.000000
(S'_(n-1 ))^2        0.514129      0.877207      0.069527     14.731385      0.000421      0.202542
(S'_(n-2 ))^2        0.466699      0.758807      0.057290     11.416784      0.001606      0.183857
(S'_(n-3 ))^2        0.559624      0.641550      0.081376     18.695316      0.000096      0.220465
(S'_(n-4 ))^2        0.149398      0.772558      0.005871      0.935977      0.338987      0.000000
(S'_(n-5 ))^2        0.281235      0.865225      0.020804      3.521338      0.067713      0.110793
(S'_(n-6 ))^2        0.208516      0.459641      0.011437      1.863709      0.179642      0.000000
(S'_(n-7 ))^2        0.292858      0.633482      0.022559      3.846276      0.056672      0.115372
(S'_(n-8 ))^2        0.423838      0.788272      0.047250      8.977954      0.004622      0.166972
(S'_(n-9 ))^2        0.215362      0.500883      0.012200      1.994095      0.165459      0.000000
(S'_(n-10))^2        0.065847      0.650749      0.001140      0.178545      0.674835      0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum(w_i, [S'_(i-n)]^2)
Standard error of regression = 0.028133
R squared = 0.818131  r = 0.904506

               COEF        STD ERROR     T-VALUE     P-LEVEL
B0          0.857899
B1         -0.006559         0.000510  -12.857252    0.000000
B2         -0.005945         0.001687   -3.524652    0.001058
B3         -0.000199         0.000047   -4.277503    0.000110

RESULTS OF REGRESSION FOR VARIABLE INT:
DIVISION #2, BETWEEN 32.00 AND 55.00 (n = 33).
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Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.093454
R squared = 0.625591  r = 0.790943
```

my3

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.073996			
B1	0.016909	0.002349	7.197030	0.000000

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.423859	0.558167	0.067265	6.570055	0.015626	0.359934
S'_(n-1)	0.384346	0.428566	0.055308	5.199764	0.029864	0.326379
S'_(n-2)	0.369399	0.337397	0.051090	4.740557	0.037458	0.313687
S'_(n-3)	0.166904	0.370195	0.010430	0.859655	0.361235	0.000000
S'_(n-4)	0.107797	0.787701	0.004351	0.352703	0.557039	0.000000
S'_(n-5)	0.017598	0.939802	0.000116	0.009294	0.923841	0.000000
S'_(n-6)	0.129185	0.769385	0.006248	0.509162	0.481017	0.000000
S'_(n-7)	0.110586	0.734621	0.004579	0.371418	0.546821	0.000000
S'_(n-8)	0.158051	0.562156	0.009353	0.768599	0.387617	0.000000
S'_(n-9)	0.120872	0.333624	0.005470	0.444799	0.509913	0.000000
S'_(n-10)	0.193232	0.396193	0.013980	1.163606	0.289316	0.000000

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.085812
R squared = 0.694502 r = 0.833368

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.307065			
B1	0.009886	0.003456	2.860602	0.007629
B2	0.006918	0.002660	2.601364	0.014281

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.254495	0.193791	0.019786	2.008339	0.167091	0.000000
(S'_(n-1))^2	0.167656	0.465947	0.008587	0.838721	0.367316	0.000000
(S'_(n-2))^2	0.006290	0.899589	0.000012	0.001148	0.973209	0.000000
(S'_(n-3))^2	0.018611	0.444516	0.000106	0.010048	0.920845	0.000000
(S'_(n-4))^2	0.265126	0.836731	0.021474	2.192586	0.149460	1.000000
(S'_(n-5))^2	0.051914	0.943952	0.000823	0.078367	0.781509	0.000000
(S'_(n-6))^2	0.112863	0.754424	0.003891	0.374169	0.545507	0.000000
(S'_(n-7))^2	0.145932	0.804272	0.006506	0.631023	0.433433	0.000000
(S'_(n-8))^2	0.088663	0.823097	0.002402	0.229777	0.635284	0.000000
(S'_(n-9))^2	0.117775	0.674396	0.004238	0.407917	0.528041	0.000000
(S'_(n-10))^2	0.135903	0.533800	0.005642	0.545696	0.466019	0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum[w_i, (S'_(i-n))^2]
Standard error of regression = 0.084155
R squared = 0.715976 r = 0.846154

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.239152			
B1	0.010449	0.003410	3.063929	0.004685
B2	0.007610	0.002650	2.871937	0.007550
B3	0.000188	0.000127	1.480738	0.149460

RESULTS OF REGRESSION FOR VARIABLE INT:
DIVISION #3, BETWEEN 55.00 AND 100.00 (n = 52).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.029724
R squared = 0.694346 r = 0.833274

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	1.192009			
B1	-0.003433	0.000322	-10.657566	0.000000

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.050974	0.207669	0.000794	0.127653	0.722412	0.000000
S'_(n-1)	0.256604	0.106005	0.020126	3.453851	0.069117	0.114504
S'_(n-2)	0.290032	0.271079	0.025711	4.500388	0.038970	0.129420
S'_(n-3)	0.203856	0.855088	0.012702	2.124593	0.151331	0.000000
S'_(n-4)	0.013813	0.648685	0.000058	0.009351	0.923357	0.000000
S'_(n-5)	0.273158	0.246738	0.022806	3.950955	0.052448	0.121891
S'_(n-6)	0.397752	0.222442	0.048356	9.209033	0.003848	0.177488
S'_(n-7)	0.413477	0.333183	0.052256	10.104748	0.002563	0.184505
S'_(n-8)	0.358244	0.606425	0.039227	7.214503	0.009844	0.159858
S'_(n-9)	0.251744	0.964484	0.019371	3.315488	0.074739	0.112335
S'_(n-10)	0.050036	0.821540	0.000765	0.122985	0.727322	0.000000

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.027834

my3

R squared = 0.737356 r = 0.858694

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	1.129227			
B1	-0.002642	0.000411	-6.427586	0.000000
B2	-0.002962	0.001045	-2.832669	0.006682

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.076840	0.993798	0.001551	0.285093	0.595847	0.000000
(S'_(n-1))^2	0.099142	0.610672	0.002582	0.476485	0.493343	0.000000
(S'_(n-2))^2	0.089521	0.443201	0.002105	0.387782	0.536415	0.000000
(S'_(n-3))^2	0.136181	0.933207	0.010108	1.921330	0.172116	0.000000
(S'_(n-4))^2	0.022755	0.704020	0.000136	0.024867	0.875360	0.000000
(S'_(n-5))^2	0.243751	0.358459	0.015605	3.032058	0.088041	1.000000
(S'_(n-6))^2	0.186889	0.785310	0.009173	1.737186	0.193751	0.000000

(S'_(n-7))^2	0.147734	0.917692	0.005732	1.070990	0.305908	0.000000
(S'_(n-8))^2	0.031033	0.447811	0.000253	0.046270	0.830597	0.000000
(S'_(n-9))^2	0.072778	0.617685	0.001391	0.255594	0.615477	0.000000
(S'_(n-10))^2	0.009321	0.794570	0.000023	0.004170	0.948778	0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum[w_i, (S'_(i-n))^2]
Standard error of regression = 0.027274
R squared = 0.752960 r = 0.867733

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	1.107950			
B1	-0.002219	0.000470	-4.719022	0.000021
B2	-0.002129	0.001131	-1.882617	0.065821
B3	-0.000048	0.000028	-1.741281	0.088041

OVERALL REGRESSION FOR INT:
REGRESSION EQUATION = I_n = b0 + b1 (phi) + b2 SUM(v S') + b3 SUM (w S'^2)
R squared = 0.885700, r = 0.941116, p = 0.000000.

RESULTS OF REGRESSION FOR VARIABLE P1:
DIVISION #1, BETWEEN 0.00 AND 17.00 (n = 20).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.006272
R squared = 0.026135 r = 0.161662

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.086412			
B1	-0.000236	0.000340	-0.695016	0.495920

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.387666	0.984123	0.146357	3.006705	0.101016	1.000000
S'_(n-1)	0.085190	0.904114	0.007117	0.125159	0.727855	0.000000
S'_(n-2)	0.183202	0.893833	0.032686	0.590383	0.452813	0.000000
S'_(n-3)	0.024491	0.516779	0.000584	0.010203	0.920726	0.000000
S'_(n-4)	0.088487	0.300624	0.007625	0.134161	0.718675	0.000000
S'_(n-5)	0.020128	0.353671	0.000395	0.006890	0.934817	0.000000
S'_(n-6)	0.265421	0.787362	0.068607	1.288386	0.272097	0.000000
S'_(n-7)	0.047244	0.879003	0.002174	0.038029	0.847696	0.000000
S'_(n-8)	0.310326	0.835032	0.093785	1.811595	0.195993	0.000000
S'_(n-9)	0.282217	0.818810	0.077565	1.471162	0.241748	0.000000
S'_(n-10)	0.243616	0.824369	0.057798	1.072583	0.314871	0.000000

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.005949
R squared = 0.172492 r = 0.415321

	COEF	STD ERROR	T-VALUE	P-LEVEL

B0	0.076494			
B1	-0.000307	0.000325	-0.945386	0.357706
B2	-0.000668	0.000385	-1.733985	0.101016

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT

my3

(S'_(n-0))^2	0.215248	0.014675	0.038340	0.777325	0.391013	0.000000
(S'_(n-1))^2	0.307191	0.490227	0.078089	1.667193	0.214979	0.000000
(S'_(n-2))^2	0.087504	0.570450	0.006336	0.123457	0.729899	0.000000
(S'_(n-3))^2	0.213516	0.586290	0.037725	0.764269	0.394929	0.000000
(S'_(n-4))^2	0.021261	0.951971	0.000374	0.007236	0.933268	0.000000
(S'_(n-5))^2	0.025115	0.427424	0.000522	0.010099	0.921203	0.000000
(S'_(n-6))^2	0.137210	0.710477	0.015579	0.307003	0.587186	0.000000
(S'_(n-7))^2	0.076408	0.838780	0.004831	0.093960	0.763155	0.000000
(S'_(n-8))^2	0.317071	0.740038	0.083193	1.788329	0.199832	1.000000
(S'_(n-9))^2	0.111350	0.715737	0.010260	0.200873	0.660027	0.000000
(S'_(n-10))^2	0.169444	0.977116	0.023759	0.472960	0.501477	0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum(w_i, [S'_(i-n)]^2)
Standard error of regression = 0.005816
R squared = 0.255684 r = 0.505652

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.078314			
B1	-0.000057	0.000368	-0.155497	0.878374
B2	-0.000595	0.000381	-1.561937	0.137863
B3	-0.000011	0.000008	-1.337284	0.199832

RESULTS OF REGRESSION FOR VARIABLE P1:
DIVISION #2, BETWEEN 17.00 AND 57.00 (n = 58).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.005967
R squared = 0.647423 r = 0.804626

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.089097			
B1	-0.000721	0.000071	-10.140544	0.000000

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.313234	0.209919	0.034593	5.983427	0.017667	0.125328
S'_(n-1)	0.168860	0.164777	0.010053	1.614292	0.209238	0.000000
S'_(n-2)	0.118053	0.281802	0.004914	0.777338	0.381793	0.000000
S'_(n-3)	0.300313	0.585556	0.031798	5.452038	0.023223	0.120158
S'_(n-4)	0.422423	0.986560	0.062914	11.945903	0.001063	0.169016
S'_(n-5)	0.428973	0.737394	0.064881	12.403464	0.000870	0.171637
S'_(n-6)	0.309539	0.443447	0.033782	5.828214	0.019126	0.123850
S'_(n-7)	0.298834	0.264794	0.031486	5.393235	0.023943	0.119567
S'_(n-8)	0.098296	0.200208	0.003407	0.536597	0.466957	0.000000

S'_(n-9)	0.211624	0.367818	0.015790	2.578644	0.114041	0.000000
S'_(n-10)	0.425991	0.875782	0.063982	12.193507	0.000954	0.170444

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.005870
R squared = 0.664854 r = 0.815386

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.089092			
B1	-0.000673	0.000075	-8.918059	0.000000
B2	0.000498	0.000295	1.691326	0.096434

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.326315	0.514383	0.035687	6.435222	0.014111	0.278413
(S'_(n-1))^2	0.164410	0.920103	0.009059	1.500207	0.225956	0.000000
(S'_(n-2))^2	0.076730	0.852017	0.001973	0.319807	0.574066	0.000000
(S'_(n-3))^2	0.174087	0.515990	0.010157	1.687680	0.199427	0.000000
(S'_(n-4))^2	0.315373	0.429976	0.033334	5.964034	0.017905	0.269078
(S'_(n-5))^2	0.077719	0.525386	0.002024	0.328152	0.569127	0.000000
(S'_(n-6))^2	0.223567	0.780455	0.016751	2.841045	0.097655	0.190749
(S'_(n-7))^2	0.192726	0.920613	0.012448	2.083108	0.154713	0.000000
(S'_(n-8))^2	0.096713	0.612799	0.003135	0.509858	0.478276	0.000000
(S'_(n-9))^2	0.096946	0.583814	0.003150	0.512333	0.477214	0.000000
(S'_(n-10))^2	0.306797	0.901967	0.031545	5.610816	0.021457	0.261760

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum(w_i, [S'_(i-n)]^2)
Standard error of regression = 0.005266
R squared = 0.735234 r = 0.857458

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.093467			
B1	-0.000596	0.000071	-8.439685	0.000000
B2	0.000183	0.000277	0.659754	0.512216
B3	-0.000036	0.000010	-3.788705	0.000383

my3

RESULTS OF REGRESSION FOR VARIABLE P1:
DIVISION #3, BETWEEN 57.00 AND 100.00 (n = 52).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.005219
R squared = 0.824600 r = 0.908075

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	-0.000744			
B1	0.000867	0.000057	15.331752	0.000000

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.750900	0.207669	0.098900	63.346932	0.000000	0.343522
S'_(n-1)	0.517459	0.106005	0.046966	17.918257	0.000101	0.236727
S'_(n-2)	0.134989	0.271079	0.003196	0.909447	0.344942	0.000000
S'_(n-3)	0.306227	0.855088	0.016448	5.070467	0.028853	0.140093
S'_(n-4)	0.320249	0.648685	0.017989	5.599722	0.021961	0.146508
S'_(n-5)	0.291054	0.246738	0.014859	4.535072	0.038256	0.133151
S'_(n-6)	0.141790	0.222442	0.003526	1.005328	0.320951	0.000000
S'_(n-7)	0.002735	0.333183	0.000001	0.000367	0.984803	0.000000
S'_(n-8)	0.093611	0.606425	0.001537	0.433182	0.513512	0.000000
S'_(n-9)	0.162176	0.964484	0.004613	1.323560	0.255538	0.000000
S'_(n-10)	0.168261	0.821540	0.004966	1.427698	0.237892	0.000000

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.004729
R squared = 0.858865 r = 0.926750

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.033167			
B1	0.000508	0.000116	4.376130	0.000063
B2	-0.000863	0.000250	-3.449100	0.001166

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.459884	0.907440	0.029849	12.874538	0.000779	0.152504
(S'_(n-1))^2	0.543849	0.602675	0.041744	20.159763	0.000045	0.180349
(S'_(n-2))^2	0.128653	0.443182	0.002336	0.807845	0.373245	0.000000
(S'_(n-3))^2	0.561966	0.869716	0.044571	22.155463	0.000022	0.186356
(S'_(n-4))^2	0.517972	0.660655	0.037866	17.600231	0.000117	0.171768
(S'_(n-5))^2	0.052161	0.363080	0.000384	0.130955	0.719032	0.000000
(S'_(n-6))^2	0.490913	0.635263	0.034013	15.240729	0.000295	0.162794
(S'_(n-7))^2	0.440959	0.832837	0.027443	11.586235	0.001350	0.146229
(S'_(n-8))^2	0.075598	0.829892	0.000807	0.275901	0.601818	0.000000
(S'_(n-9))^2	0.144556	0.995261	0.002949	1.024435	0.316544	0.000000
(S'_(n-10))^2	0.174012	0.842135	0.004274	1.498826	0.226827	0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum[w_i, [S'_(i-n)]^2]
Standard error of regression = 0.004697
R squared = 0.863654 r = 0.929330

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.042495			
B1	0.000455	0.000122	3.726125	0.000512
B2	-0.000957	0.000259	-3.697918	0.000558
B3	-0.000019	0.000015	-1.298414	0.200349

OVERALL REGRESSION FOR P1:
REGRESSION EQUATION = 1/P1 = b0 + b1 (phi) + b2 SUM(v S') + b3 SUM (w S'^2)
R squared = 0.847357, r = 0.920520, p = 0.000000.

RESULTS OF REGRESSION FOR VARIABLE P2:

DIVISION #1, BETWEEN 0.00 AND 22.00 (n = 30).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.002743
R squared = 0.451659 r = 0.672056

	COEF	STD ERROR	T-VALUE	P-LEVEL

my3

B0	0.017691			
B1	-0.000405	0.000084	-4.902405	0.000048

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.100860	0.916561	0.005578	0.277485	0.602656	0.000000
S'_(n-1)	0.115343	0.897252	0.007295	0.364052	0.551300	0.000000
S'_(n-2)	0.140013	0.934005	0.010750	0.539885	0.468815	0.000000
S'_(n-3)	0.049967	0.650679	0.001369	0.067580	0.796866	0.000000
S'_(n-4)	0.044948	0.321462	0.001108	0.054660	0.816908	0.000000
S'_(n-5)	0.172762	0.279650	0.016366	0.830651	0.370150	0.000000
S'_(n-6)	0.255993	0.423167	0.035934	1.893452	0.180120	0.000000
S'_(n-7)	0.051702	0.991962	0.001466	0.072366	0.789967	0.000000
S'_(n-8)	0.217344	0.648020	0.025903	1.338676	0.257402	0.000000
S'_(n-9)	0.309922	0.582932	0.052669	2.868963	0.101810	0.000000
S'_(n-10)	0.344836	0.562545	0.065204	3.643927	0.066956	1.000000

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.002622
R squared = 0.516863 r = 0.718932

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.016099			
B1	-0.000269	0.000107	-2.505611	0.018555
B2	-0.000105	0.000055	-1.908907	0.066956

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.063520	0.906254	0.001949	0.105329	0.748122	0.000000
(S'_(n-1))^2	0.009951	0.888002	0.000048	0.002575	0.959918	0.000000
(S'_(n-2))^2	0.096341	0.956866	0.004484	0.243583	0.625773	0.000000
(S'_(n-3))^2	0.088261	0.736183	0.003764	0.204132	0.655153	0.000000
(S'_(n-4))^2	0.179831	0.919436	0.015624	0.868919	0.359831	0.000000
(S'_(n-5))^2	0.020410	0.560592	0.000201	0.010836	0.917893	0.000000
(S'_(n-6))^2	0.273423	0.431850	0.036119	2.100824	0.159175	1.000000
(S'_(n-7))^2	0.178811	0.930636	0.015447	0.858764	0.362608	0.000000
(S'_(n-8))^2	0.006214	0.314196	0.000019	0.001004	0.974966	0.000000
(S'_(n-9))^2	0.105672	0.337192	0.005395	0.293607	0.592532	0.000000
(S'_(n-10))^2	0.047161	0.831229	0.001075	0.057958	0.811642	0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum[w_i, [S'_(i-n)]^2)

Standard error of regression = 0.002570
R squared = 0.552982 r = 0.743628

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.013370			
B1	-0.000172	0.000125	-1.374471	0.181028
B2	-0.000082	0.000056	-1.462425	0.155609
B3	0.000004	0.000003	1.449422	0.159175

RESULTS OF REGRESSION FOR VARIABLE P2:
DIVISION #2, BETWEEN 22.00 AND 65.00 (n = 57).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.002506
R squared = 0.506801 r = 0.711900

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.006187			
B1	0.000208	0.000028	7.517769	0.000000

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.599072	0.483514	0.177003	30.228565	0.000001	0.289254
S'_(n-1)	0.617130	0.193029	0.187835	33.216310	0.000000	0.297973
S'_(n-2)	0.284550	0.145823	0.039934	4.757510	0.033545	0.137391
S'_(n-3)	0.000174	0.257568	0.000000	0.000002	0.998986	0.000000
S'_(n-4)	0.033253	0.574567	0.000545	0.059778	0.807774	0.000000
S'_(n-5)	0.039051	0.991913	0.000752	0.082474	0.775072	0.000000
S'_(n-6)	0.165832	0.714892	0.013563	1.527008	0.221911	0.000000
S'_(n-7)	0.299649	0.428166	0.044284	5.326948	0.024857	0.144682
S'_(n-8)	0.209674	0.277499	0.021683	2.483192	0.120910	0.000000
S'_(n-9)	0.107441	0.229650	0.005693	0.630633	0.430599	0.000000
S'_(n-10)	0.270690	0.442384	0.036138	4.269586	0.043611	0.130699

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.001919
R squared = 0.716050 r = 0.846197

my3

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.011504			
B1	0.000028	0.000035	0.795266	0.429941
B2	0.000377	0.000060	6.308231	0.000000

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.235339	0.393689	0.015726	3.107468	0.083699	0.386202
(S'_(n-1))^2	0.058606	0.541955	0.000975	0.182667	0.670823	0.000000
(S'_(n-2))^2	0.149252	0.672795	0.006325	1.207543	0.276786	0.000000
(S'_(n-3))^2	0.213119	0.711147	0.012897	2.521787	0.118232	0.000000
(S'_(n-4))^2	0.105753	0.816476	0.003176	0.599437	0.442233	0.000000

(S'_(n-5))^2	0.193716	0.978041	0.010655	2.066409	0.156454	0.000000
(S'_(n-6))^2	0.119691	0.785997	0.004068	0.770307	0.384083	0.000000
(S'_(n-7))^2	0.115267	0.730550	0.003773	0.713668	0.402026	0.000000
(S'_(n-8))^2	0.037086	0.631324	0.000391	0.072993	0.788076	0.000000
(S'_(n-9))^2	0.374028	0.573508	0.039724	8.620505	0.004908	0.613798
(S'_(n-10))^2	0.176187	0.681605	0.008814	1.697935	0.198191	0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum{w_i, (S'_(i-n))^2}
Standard error of regression = 0.001880
R squared = 0.732588 r = 0.855914

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.010055			
B1	0.000037	0.000035	1.064250	0.292040
B2	0.000377	0.000058	6.449687	0.000000
B3	0.000004	0.000002	1.810485	0.075891

RESULTS OF REGRESSION FOR VARIABLE P2:
DIVISION #3, BETWEEN 65.00 AND 100.00 (n = 43).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.002043
R squared = 0.231702 r = 0.481355

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.025743			
B1	-0.000107	0.000030	-3.516354	0.001084

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.260506	0.345097	0.052139	2.912170	0.095667	0.163435
S'_(n-1)	0.311458	0.151840	0.074529	4.297079	0.044663	0.195401
S'_(n-2)	0.002422	0.168843	0.000005	0.000235	0.987852	0.000000
S'_(n-3)	0.329317	0.599631	0.083321	4.865654	0.033204	0.206605
S'_(n-4)	0.383041	0.905443	0.112725	6.877960	0.012287	0.240311
S'_(n-5)	0.248326	0.371960	0.047378	2.628727	0.112803	0.000000
S'_(n-6)	0.185795	0.308511	0.026522	1.430167	0.238779	0.000000
S'_(n-7)	0.016794	0.345588	0.000217	0.011285	0.915930	0.000000
S'_(n-8)	0.219858	0.524963	0.037138	2.031703	0.161805	0.000000
S'_(n-9)	0.309619	0.889095	0.073652	4.241128	0.046006	0.194247
S'_(n-10)	0.227315	0.914707	0.039700	2.179501	0.147690	0.000000

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.002062
R squared = 0.236515 r = 0.486328

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.027854			
B1	-0.000129	0.000054	-2.409732	0.020656

B2	-0.000062	0.000123	-0.502140	0.618322

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.093848	0.549562	0.006724	0.346542	0.559472	0.000000
(S'_(n-1))^2	0.300068	0.792226	0.068745	3.859059	0.056632	0.191085
(S'_(n-2))^2	0.303422	0.359725	0.070290	3.954625	0.053792	0.193222
(S'_(n-3))^2	0.186684	0.489675	0.026608	1.408266	0.242523	0.000000
(S'_(n-4))^2	0.377943	0.730069	0.109057	6.499121	0.014838	0.240676
(S'_(n-5))^2	0.043542	0.362415	0.001447	0.074081	0.786921	0.000000

(S'_(n-6))^2	0.301049	0.497759	0.069195	3.886864	0.055789	0.191710
(S'_(n-7))^2	0.287852	0.862559	0.063262	3.523451	0.068001	0.183306
(S'_(n-8))^2	0.065619	0.741163	0.003287	0.168653	0.683559	0.000000
(S'_(n-9))^2	0.233531	0.945714	0.041638	2.249614	0.141700	0.000000
(S'_(n-10))^2	0.236806	0.900320	0.042814	2.316932	0.136040	0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum(w_i, (S'_(i-n))^2)
Standard error of regression = 0.001992
R squared = 0.304637 r = 0.551939

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.020818			
B1	-0.000084	0.000057	-1.474464	0.148384
B2	0.000024	0.000127	0.192028	0.848717
B3	0.000012	0.000006	1.954652	0.057820

OVERALL REGRESSION FOR P2:
REGRESSION EQUATION = 1/P2 = b0 + b1 (phi) + b2 SUM(v S') + b3 SUM (w S'^2)
R squared = 0.684719, r = 0.827477, p = 0.000000.

Results of detrending for pp :
Division #1, between 0.00 and 20.00 (n = 28).
Detrending equation: PP = b0 + b1 (PHI)
Standard error of regression = 3.705019
R squared = 0.093925 r = 0.306473

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	-6.245576	1.579856	-3.953256	0.000501
B1	-0.209089	0.124979	-1.672983	0.105880

Results of detrending for pp :
Division #2, between 20.00 and 57.00 (n = 58).
Detrending equation: PP = b0 + b1 (PHI)
Standard error of regression = 5.147299
R squared = 0.712211 r = 0.843926

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	-26.276903	2.527604	-10.395975	0.000000
B1	0.774203	0.065765	11.772308	0.000000

Results of detrending for pp :

Division #3, between 57.00 and 100.00 (n = 53).
Detrending equation: PP = b0 + b1 (PHI)
Standard error of regression = 5.295585
R squared = 0.656711 r = 0.810377

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	46.919638	4.595731	10.209396	0.000000
B1	-0.560271	0.056722	-9.877400	0.000000

Overall detrending for pp:
R squared = 0.736268, r = 0.858061, p = 0.000000.

Results of detrending for int :
Division #1, between 0.00 and 32.00 (n = 45).
Detrending equation: INT = b0 + b1 (PHI)
Standard error of regression = 0.038520
R squared = 0.705837 r = 0.840141

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	-0.003131	0.012357	-0.253389	0.801050
B1	-0.006794	0.000633	-10.731944	0.000000

Results of detrending for int :
Division #2, between 32.00 and 55.00 (n = 33).
Detrending equation: INT = b0 + b1 (PHI)
Standard error of regression = 0.100193
R squared = 0.588714 r = 0.767277

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	-0.724482	0.105474	-6.868844	0.000000
B1	0.016929	0.002427	6.976215	0.000000

Results of detrending for int :
Division #3, between 55.00 and 100.00 (n = 52).
Detrending equation: INT = b0 + b1 (PHI)
Standard error of regression = 0.029904
R squared = 0.717777 r = 0.847217

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.396508	0.025094	15.801081	0.000000
B1	-0.003579	0.000311	-11.500072	0.000000

my3

```
Overall detrending for Int:
R squared = 0.827261, r = 0.909539, p = 0.000000.

Results of detrending for P1 :
Division #1, between 0.00 and 17.00 (n = 20).
Detrending equation: P1 = b0 + b1 (PHI)
Standard error of regression = 0.810766
R squared = 0.003215  r = 0.056704

                COEF        STD ERROR     T-VALUE     P-LEVEL
```



```
B0         -3.250147         0.396228  -8.202717    0.000000
B1          0.009885         0.037982   0.260267    0.797193


Results of detrending for P1 :
Division #2, between 17.00 and 57.00 (n = 58).
Detrending equation: P1 = b0 + b1 (PHI)
Standard error of regression = 1.622853
R squared = 0.653196  r = 0.808206

                COEF        STD ERROR     T-VALUE     P-LEVEL
B0         -5.871667         0.675016  -8.698559    0.000000
B1          0.196932         0.018224  10.806269    0.000000


Results of detrending for P1 :
Division #3, between 57.00 and 100.00 (n = 52).
Detrending equation: P1 = b0 + b1 (PHI)
Standard error of regression = 1.587399
R squared = 0.749100  r = 0.865506

                COEF        STD ERROR     T-VALUE     P-LEVEL
B0         16.844141         1.377612  12.227058    0.000000
B1         -0.209813         0.017003 -12.339700    0.000000


Overall detrending for P1:
R squared = 0.765229, r = 0.874774, p = 0.000000.

Results of detrending for P2 :
Division #1, between 0.00 and 22.00 (n = 30).
Detrending equation: P2 = b0 + b1 (PHI)
Standard error of regression = 17.363325
R squared = 0.488682  r = 0.699058

                COEF        STD ERROR     T-VALUE     P-LEVEL
B0        -20.112484         6.851024  -2.935690    0.006117
B1          2.654776         0.480048   5.530226    0.000004


Results of detrending for P2 :
Division #2, between 22.00 and 65.00 (n = 57).
Detrending equation: P2 = b0 + b1 (PHI)
Standard error of regression = 14.775238
R squared = 0.481651  r = 0.694011

                COEF        STD ERROR     T-VALUE     P-LEVEL
B0         49.261522         6.864555   7.176215    0.000000
B1         -1.179787         0.158006  -7.466737    0.000000


Results of detrending for P2 :
Division #3, between 65.00 and 100.00 (n = 43).
Detrending equation: P2 = b0 + b1 (PHI)
Standard error of regression = 7.592828
R squared = 0.234069  r = 0.483806
```



```
                COEF        STD ERROR     T-VALUE     P-LEVEL
B0        -43.620933         9.241819  -4.719951    0.000026
B1          0.391767         0.109352   3.582624    0.000877


Overall detrending for P2:
R squared = 0.573952, r = 0.757596, p = 0.000000.

Results of linear model for PP :
Linear model equation: PP = b0 + b1 (I_n-1) + b2 (D_n)
Standard error of linear model = 4.243575
R squared = 0.250369  r = 0.500369
```

my3

	COEF	STD ERROR	T-VALUE	P
B0	71.756079	5.689785	12.611387	0.000000
B1	41.665855	6.400768	6.509509	0.000000
B2	-0.014280	0.038855	-0.367519	0.713803

Overall results of linear modelling of pp
after retrending: R-squared = 0.803308, r = 0.896274.

Results of linear model for int :
Linear model equation: INT = b0 + b1 (S_n) + ... + b(1+m) (S_n-m)
Standard error of linear model = 0.053770
R squared = 0.053452 r = 0.231196

	COEF	STD ERROR	T-VALUE	P
B0	0.841830	0.291826	2.884703	0.004582
B1	0.000358	0.001068	0.335301	0.737935
B2	0.000445	0.001413	0.314953	0.753299
B3	-0.000454	0.001434	-0.316197	0.752356
B4	0.000840	0.001415	0.593853	0.553635
B5	-0.001464	0.001413	-1.036240	0.301999
B6	0.001338	0.001413	0.947003	0.345381
B7	-0.000689	0.001412	-0.488201	0.626224
B8	0.000609	0.001415	0.430183	0.667769
B9	-0.000400	0.001409	-0.284077	0.776800
B10	-0.000734	0.001394	-0.526363	0.599526
B11	-0.000109	0.001087	-0.100049	0.920458

Overall results of linear modelling of int
after retrending: R-squared = 0.855176, r = 0.924757.

Results of linear model for p1 :
Linear model equation: P1 = b0 + b1 (S_n) + ... + b(1+m) (S_n-m)
Standard error of linear model = 1.449112
R squared = 0.139567 r = 0.373586

	COEF	STD ERROR	T-VALUE	P
B0	9.464574	7.864791	1.203411	0.230988
B1	0.067606	0.028773	2.349671	0.020284
B2	0.006890	0.038070	0.180995	0.856651
B3	-0.029271	0.038654	-0.757267	0.450250

B4	-0.006407	0.038134	-0.168005	0.866839
B5	0.013524	0.038074	0.355196	0.723014
B6	-0.042922	0.038090	-1.126842	0.261869
B7	0.061412	0.038058	1.613659	0.109008
B8	-0.031949	0.038130	-0.837878	0.403625
B9	0.027591	0.037978	0.726481	0.468840
B10	-0.004560	0.037582	-0.121340	0.903607
B11	-0.022880	0.029284	-0.781291	0.436041

Overall results of linear modelling of p1
after retrending: R-squared = 0.786698, r = 0.886960.

Results of linear model for p2 :
Linear model equation: P2 = b0 + b1 (S_n) + ... + b(1+m) (S_n-m)
Standard error of linear model = 12.726059
R squared = 0.185430 r = 0.430616

	COEF	STD ERROR	T-VALUE	P
B0	204.620455	69.068378	2.962578	0.003624
B1	-0.597251	0.252681	-2.363654	0.019566
B2	-0.329432	0.334331	-0.985349	0.326269
B3	0.173352	0.339458	0.510675	0.610438
B4	0.159680	0.334889	0.476814	0.634289
B5	0.108100	0.334369	0.323297	0.746986
B6	-0.452661	0.334508	-1.353216	0.178317
B7	-0.093654	0.334222	-0.280216	0.779754
B8	-0.094276	0.334859	-0.281541	0.778740
B9	0.177790	0.333526	0.533062	0.594894
B10	-0.317608	0.330041	-0.962329	0.337657
B11	0.342046	0.257175	1.330013	0.185825

Overall results of linear modelling of p2
after retrending: R-squared = 0.653623, r = 0.808470.

Results of linear model for diast :
Linear model equation: D_n+1 = b0 + b1(D) + b2(D') + b3(D'') + b4(PP) + b5(INT) + b6(P1) + b7(P2)
Standard error of linear model = 4.436147
R squared = 0.793045 r = 0.890531

	COEF	STD ERROR	T-VALUE	P
B0	26.301295	11.753239	2.237791	0.026924
B1	0.615666	0.052258	11.781351	0.000000
B2	-0.074817	0.015264	-4.901423	0.000003
B3	0.005270	0.000801	6.577363	0.000000
B4	0.189172	0.115310	1.640551	0.103290

my3

B5	-40.567031	7.487574	-5.417914	0.000000
B6	0.125905	0.355657	0.354006	0.723904
B7	-0.077970	0.035127	-2.219647	0.028163

Results of linear model for ddiast :
Linear model equation: D''_n+1 = b0 + b1(D) + b2(D') + b3(D'') + b4(PP) + b5(INT) + b6(P1) + b7(P2)
Standard error of linear model = 33.065583
R squared = 0.104004 r = 0.322497

	COEF	STD ERROR	T-VALUE	P
B0	-80.060339	87.604780	-0.913881	0.362458
B1	0.147704	0.389512	0.379204	0.705151
B2	0.200421	0.113776	1.761550	0.080478
B3	-0.013134	0.005972	-2.199417	0.029603
B4	1.791974	0.859483	2.084944	0.039016
B5	-99.741339	55.809917	-1.787162	0.076224
B6	-4.148284	2.650949	-1.564830	0.120035
B7	-0.250914	0.261827	-0.958320	0.339667

Results of linear model for dddiast :
Linear model equation: D''_n+1 = b0 + b1(D) + b2(D') + b3(D'') + b4(PP) + b5(INT) + b6(P1) + b7(P2)
Standard error of linear model = 689.910254
R squared = 0.182827 r = 0.427583

	COEF	STD ERROR	T-VALUE	P
B0	-1630.513780	1827.600496	-0.892161	0.373943
B1	0.084193	8.125949	0.010361	0.991749
B2	-5.834881	2.373572	-2.458270	0.015267
B3	0.455583	0.124582	3.656885	0.000369
B4	29.222421	17.930429	1.629767	0.105553
B5	-1836.495632	1164.299843	-1.577339	0.117129
B6	-39.760433	55.303784	-0.718946	0.473455
B7	5.070396	5.462196	0.928271	0.354974

Results of windkessel model for diast :
Overall results for diast:
R-squared = 0.931476, r = 0.965130.

NONLINEAR FORECAST RESULTS (In-sample, n = 120):

STEP	PP	INT	P1	P2	DIAST
0	0.882540	0.938320	0.861648	0.845952	1.000000
1	0.823604	0.906178	0.578012	0.492282	0.359017
2	0.837608	0.842200	0.568273	0.367213	0.009646
3	0.825337	0.743680	0.427536	0.324089	-0.023358
4	0.782942	0.768951	0.455339	0.273050	0.044196
5	0.771382	0.701409	0.729510	0.341569	0.242489
6	0.759112	0.578065	0.752219	0.355928	0.446482
7	0.732425	0.609901	0.746787	0.466634	0.295541
8	0.720813	0.595225	0.742354	0.463656	0.463446
9	0.734411	0.568383	0.628222	0.527430	0.454826
10	0.721604	0.570523	0.518375	0.446542	0.369591

NONLINEAR FORECAST RESULTS (Out-of-sample, n = 103):

STEP	PP	INT	P1	P2	DIAST
0	0.725646	0.652433	0.659701	0.587964	1.000000
1	0.646770	0.682858	0.419348	0.421721	0.342604
2	0.620496	0.648341	0.323060	0.355634	0.074847
3	0.613581	0.665953	0.195511	0.304051	0.060629
4	0.686583	0.688626	0.288196	0.294673	0.085057
5	0.659128	0.635414	0.443891	0.378991	0.188085
6	0.621488	0.624454	0.491772	0.390127	0.264679
7	0.638013	0.585725	0.555631	0.385280	0.269964

8	0.592523	0.427836	0.602473	0.369258	0.476181
9	0.602710	0.410923	0.453684	0.471506	0.398314
10	0.603296	0.439672	0.453593	0.485640	0.325313

LINEAR FORECAST RESULTS (In-sample, n = 120):

STEP	PP	INT	P1	P2	DIAST
0	0.125414	0.143991	0.123586	0.137621	1.000000
1	0.076461	0.113841	0.172684	0.126279	0.884561
2	0.062266	0.092837	0.164589	0.101176	0.652736
3	0.068885	0.068106	0.118589	0.080927	0.284961
4	0.085859	0.045431	0.077533	0.065044	-0.153495
5	0.114820	0.044156	0.013908	0.049486	-0.460313
6	0.146667	0.052887	0.001578	0.051347	-0.594302

my3

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7      0.167688  0.073135 -0.038144  0.048728 -0.601936
8      0.183967  0.100969 -0.051503  0.062333 -0.501935
9      0.201200  0.101206 -0.009444  0.097751 -0.453267
10     0.192736  0.098195  0.050720  0.107666 -0.707592


LINEAR FORECAST RESULTS (Out-of-sample, n = 103):

STEP         PP        INT         P1         P2      DIAST
0      0.125023 -0.050778  0.265894 -0.084155  1.000000
1      0.106285 -0.008563  0.242699 -0.043344  0.893260
2      0.133025  0.028287  0.267602  0.003220  0.709714
3      0.141860  0.057124  0.261599  0.013877  0.445510
4      0.146658  0.090928  0.264344  0.017309  0.079539
5      0.146608  0.067674  0.272901 -0.008112 -0.254435
6      0.091846  0.044431  0.322380 -0.036560 -0.524643
7      0.096237  0.018524  0.342901 -0.069700 -0.609955
8      0.141950 -0.000861  0.359194 -0.094491 -0.586125
9      0.178322 -0.007438  0.339429 -0.110911 -0.566845
10     0.224260  0.016247  0.334361 -0.136907 -0.522060


Error analysis for long forecast into file n116.00:
Errors in p1: 0
Errors in p2: 0
Errors in p5: 0
Post inflection adjustment in p5: 3
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In-sample data for beats 190 through 300 (n = 109):
BEATNO       TIME   INT   DIAS  DIAS'   DIAS''   SYST     PP      P1      P2      P3          P4     P5      P6   RESP

AVG     2655.963 0.816  38.73 -37.88    -6.02  93.03  54.30   32.52  175.20 1200.28  131142.59  38.81  101.22  51.63
STDDEV    26.072 0.074   2.89  23.61   394.97   2.17   1.91    8.27  109.05  337.42   30521.25   5.27   52.03  28.12


Out-of-sample data for beats 301 through 402 (n = 97):
BEATNO       TIME   INT   DIAS  DIAS'   DIAS''   SYST     PP      P1      P2      P3          P4     P5      P6   RESP

AVG     2741.527 0.805  38.38 -37.92    25.10  91.82  53.44   33.65  184.46 1222.63  131440.48  38.83  100.97  53.88
STDDEV    23.578 0.090   3.75  21.40   370.64   3.10   2.32    9.20  115.68  409.98   25658.44   6.03   51.90  28.17


Results of regression for p3 :
Regression equation: P3 = b0 + b1 (P1) + b2 (P1)^2
Standard error of regression = 282.267288
R squared = 0.313149  r = 0.559597

              COEF        STD ERROR     T-VALUE          P
B0       279.544297       296.100661   0.944085   0.347273
B1        34.581011        18.240270   1.895861   0.060702
B2        -0.181182         0.274271  -0.660596   0.510304


Results of regression for p4 :
Regression equation: P4 = b0 + b1 (PP)
Standard error of regression = 30334.797018
R squared = 0.021327  r = 0.146037

              COEF        STD ERROR     T-VALUE          P
B0    257819.610711     83009.329853   3.105911   0.002429
B1     -2332.697327      1527.640796  -1.526993   0.129713


Results of regression for p5 :
Regression equation: P5 = b0 + b1 (P2) + b2 (P2)^2 + b3 (P2)^3
Standard error of regression = 4.382294
R squared = 0.327835  r = 0.572569

              COEF        STD ERROR     T-VALUE          P
B0       25.750248         3.481484   7.396342   0.000000
B1        0.133160         0.044758   2.975110   0.003635
B2       -0.000350         0.000160  -2.187015   0.030960
B3        0.000000         0.000000   1.938958   0.055191


Results of regression for p6 :
Regression equation: P6 = b0 + b1 (P1)
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my3

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Standard error of regression = 52.272771
R squared = 0.000043  r = 0.006577

              COEF        STD ERROR     T-VALUE          P
B0       102.570748       20.404335    5.026910   0.000002
B1        -0.041381        0.608216   -0.068036   0.945884
```



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Results of regression for pp :
Division #1, between 0.00 and 27.00 (n = 22).
Regression equation: PP = b0 + b1 (PHI) + b2 (I_n-1) + b3 (D)
Standard error of regression = 1.083517
R squared = 0.772514  r = 0.878928

              COEF        STD ERROR     T-VALUE     P-LEVEL
B0       40.052284         9.896494    4.047119   0.000756
B1       -0.095683         0.039339   -2.432272   0.025665
B2       22.457285         6.497273    3.456417   0.002816
B3       -0.112231         0.141378   -0.793842   0.437628


Results of regression for pp :
Division #2, between 27.00 and 40.00 (n = 16).
Regression equation: PP = b0 + b1 (PHI) + b2 (I_n-1) + b3 (D)
Standard error of regression = 1.617060
R squared = 0.292051  r = 0.540417

              COEF        STD ERROR     T-VALUE     P-LEVEL
B0       64.685027        15.275714    4.234501   0.001159
B1        0.298488         0.166637    1.791249   0.098489
B2       -6.542493        11.697882   -0.559289   0.586252
B3       -0.402526         0.243813   -1.650958   0.124655


Results of regression for pp :
Division #3, between 40.00 and 63.00 (n = 33).
Regression equation: PP = b0 + b1 (PHI) + b2 (I_n-1) + b3 (D)
Standard error of regression = 0.870523
R squared = 0.811976  r = 0.901097

              COEF        STD ERROR     T-VALUE     P-LEVEL
B0       66.968912         5.349540   12.518629   0.000000
B1       -0.043792         0.020831   -2.102299   0.044325
B2       10.048364         4.224729    2.378463   0.024190
B3       -0.450132         0.075238   -5.982749   0.000002


Results of regression for pp :
Division #4, between 63.00 and 100.00 (n = 37).
Regression equation: PP = b0 + b1 (PHI) + b2 (I_n-1) + b3 (D)
Standard error of regression = 0.771188
R squared = 0.651800  r = 0.807341

              COEF        STD ERROR     T-VALUE     P-LEVEL
B0       66.149054         6.009749   11.006957   0.000000
B1       -0.052107         0.014373   -3.625356   0.000961
B2       11.140752         3.725400    2.990485   0.005233
B3       -0.421837         0.099539   -4.237921   0.000170


Overall regression for pp:
R squared = 0.767539, r = 0.876093, p = 0.000000.
```



```
RESULTS OF REGRESSION FOR VARIABLE INT:
DIVISION #1, BETWEEN 0.00 AND 37.00 (n = 34).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.037590
R squared = 0.372536  r = 0.610357

              COEF        STD ERROR     T-VALUE     P-LEVEL
B0        0.819553
B1       -0.002819         0.00064   -4.358779   0.000127

Variables not in model:

          PARTIAL CORR     TOLERANCE          R-SQ       F-VALUE      P-LEVEL    NEW WEIGHT
S'_(n-0 )     0.007322      0.949066      0.000034      0.001662     0.967742      0.000000
```

my3

S'_(n-1)	0.253708	0.593659	0.040389	2.132683	0.154250	0.000000
S'_(n-2)	0.138365	0.735516	0.012013	0.605079	0.442543	0.000000
S'_(n-3)	0.226233	0.763370	0.032115	1.672214	0.205516	0.000000
S'_(n-4)	0.118881	0.999314	0.008868	0.444395	0.509940	0.000000
S'_(n-5)	0.371298	0.574255	0.086504	4.957141	0.033385	0.523777
S'_(n-6)	0.078303	0.950521	0.003847	0.191243	0.664916	0.000000
S'_(n-7)	0.274262	0.845614	0.047197	2.521464	0.122455	0.000000
S'_(n-8)	0.337588	0.874833	0.071509	3.987353	0.054688	0.476223
S'_(n-9)	0.289054	0.877959	0.052426	2.826260	0.102784	0.000000
S'_(n-10)	0.038290	0.999882	0.000920	0.045516	0.832454	0.000000

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.037729
R squared = 0.387610 r = 0.622583

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.813217			
B1	-0.002502	0.000744	-3.362506	0.002067
B2	-0.005376	0.006154	-0.873535	0.389089

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.268340	0.936343	0.044096	2.327811	0.137555	0.000000
(S'_(n-1))^2	0.370871	0.671480	0.084231	4.784444	0.036647	0.480583
(S'_(n-2))^2	0.104611	0.881306	0.006702	0.331934	0.568820	0.000000
(S'_(n-3))^2	0.147254	0.882737	0.013279	0.664926	0.421253	0.000000
(S'_(n-4))^2	0.084587	0.854235	0.004382	0.216195	0.645312	0.000000
(S'_(n-5))^2	0.009850	0.896414	0.000059	0.002911	0.957330	0.000000
(S'_(n-6))^2	0.123325	0.929005	0.009314	0.463316	0.501298	0.000000
(S'_(n-7))^2	0.400840	0.869383	0.098394	5.742896	0.022993	0.519417
(S'_(n-8))^2	0.275411	0.998153	0.046450	2.462297	0.127097	0.000000
(S'_(n-9))^2	0.045540	0.890295	0.001270	0.062346	0.804528	0.000000
(S'_(n-10))^2	0.076369	0.849271	0.003572	0.175995	0.677827	0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum[w_i, [S'_(i-n)]^2]
Standard error of regression = 0.033611
R squared = 0.529694 r = 0.727801

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.806013			
B1	-0.001242	0.000784	-1.585210	0.123405
B2	-0.007467	0.005526	-1.351192	0.186736
B3	-0.004698	0.001561	-3.010528	0.005249

RESULTS OF REGRESSION FOR VARIABLE INT:
DIVISION #2, BETWEEN 37.00 AND 100.00 (n = 65).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.054789
R squared = 0.476746 r = 0.690468

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.651808			
B1	0.002743	0.000362	7.576309	0.000000

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.041130	0.597556	0.000885	0.105060	0.746931	0.000000
S'_(n-1)	0.211510	0.939662	0.023409	2.903570	0.093391	1.000000
S'_(n-2)	0.151720	0.564897	0.012045	1.460802	0.231392	0.000000
S'_(n-3)	0.200441	0.796251	0.021022	2.595207	0.112267	0.000000
S'_(n-4)	0.033319	0.889037	0.000581	0.068908	0.793804	0.000000
S'_(n-5)	0.147306	0.521707	0.011354	1.375176	0.245411	0.000000
S'_(n-6)	0.188142	0.664229	0.018522	2.275181	0.136539	0.000000
S'_(n-7)	0.160768	0.946988	0.013524	1.644982	0.204418	0.000000
S'_(n-8)	0.093881	0.593739	0.004612	0.551308	0.460588	0.000000
S'_(n-9)	0.015543	0.771193	0.000126	0.014981	0.902979	0.000000
S'_(n-10)	0.120941	0.934741	0.007653	0.920311	0.341119	0.000000

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.053980
R squared = 0.500155 r = 0.707216

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.657212			
B1	0.002589	0.000368	7.035746	0.000000
B2	0.006419	0.003767	1.703986	0.093391

Variables not in model:

my3

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.435830	0.731360	0.094945	14.303801	0.000357	1.000000
(S'_(n-1))^2	0.171798	0.766911	0.014753	1.855132	0.178196	0.000000
(S'_(n-2))^2	0.201016	0.981544	0.020197	2.568649	0.114167	0.000000
(S'_(n-3))^2	0.057665	0.900387	0.001662	0.203521	0.653494	0.000000

(S'_(n-4))^2	0.073371	0.860147	0.001691	0.330160	0.567678	0.000000
(S'_(n-5))^2	0.097598	0.939159	0.004761	0.586632	0.446678	0.000000
(S'_(n-6))^2	0.016220	0.886291	0.000132	0.016053	0.899593	0.000000
(S'_(n-7))^2	0.033016	0.869510	0.000545	0.066566	0.797272	0.000000
(S'_(n-8))^2	0.016919	0.964690	0.000143	0.017467	0.895290	0.000000
(S'_(n-9))^2	0.074947	0.935900	0.002808	0.344577	0.559366	0.000000
(S'_(n-10))^2	0.003534	0.848437	0.000006	0.000762	0.978069	0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum(w_i, [S'_(i-n)]^2)
Standard error of regression = 0.048980
R squared = 0.595099 r = 0.771427

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.719593			
B1	0.001894	0.000381	4.969672	0.000006
B2	0.011347	0.003658	3.102069	0.002910
B3	-0.005576	0.001474	-3.782037	0.000357

OVERALL REGRESSION FOR INT:
REGRESSION EQUATION = I_n = b0 + b1 (phi) + b2 SUM(v S') + b3 SUM (w S'^2)
R squared = 0.682396, r = 0.826072, p = 0.000000.

RESULTS OF REGRESSION FOR VARIABLE P1:
DIVISION #1, BETWEEN 0.00 AND 30.00 (n = 28).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.012274
R squared = 0.146256 r = 0.382434

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.025035			
B1	0.000550	0.000260	2.110471	0.044593

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.630760	0.995273	0.339669	16.518419	0.000420	0.472429
S'_(n-1)	0.193674	0.696821	0.032024	0.974287	0.333071	0.000000
S'_(n-2)	0.077364	0.832673	0.005110	0.150532	0.701311	0.000000
S'_(n-3)	0.254437	0.722050	0.055270	1.730478	0.200287	0.000000
S'_(n-4)	0.201465	0.981546	0.034652	1.057632	0.313604	0.000000
S'_(n-5)	0.023267	0.603204	0.000462	0.013541	0.908291	0.000000
S'_(n-6)	0.189247	0.999995	0.030577	0.928624	0.344450	0.000000
S'_(n-7)	0.069662	0.830228	0.004143	0.121911	0.729895	0.000000
S'_(n-8)	0.362991	0.902572	0.112491	3.793963	0.062750	0.271874
S'_(n-9)	0.212678	0.861125	0.038617	1.184374	0.286848	0.000000
S'_(n-10)	0.341392	0.988965	0.099503	3.298102	0.081372	0.255697

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.011631

R squared = 0.262883 r = 0.512721

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.021787			
B1	0.000540	0.000247	2.187082	0.038304
B2	-0.006965	0.003502	-1.988847	0.057768

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.434179	0.677842	0.138955	5.575277	0.026675	0.477599
(S'_(n-1))^2	0.054879	0.761712	0.007220	0.072499	0.790034	0.000000
(S'_(n-2))^2	0.315896	0.987113	0.071557	2.660455	0.115926	0.000000
(S'_(n-3))^2	0.066641	0.841143	0.003274	0.107060	0.746353	0.000000
(S'_(n-4))^2	0.082952	0.970238	0.005072	0.166290	0.687045	0.000000
(S'_(n-5))^2	0.070934	0.848515	0.003709	0.121370	0.730590	0.000000
(S'_(n-6))^2	0.029264	0.813922	0.000631	0.020571	0.887152	0.000000
(S'_(n-7))^2	0.103126	0.967802	0.007839	0.257984	0.616145	0.000000
(S'_(n-8))^2	0.075225	0.977554	0.004171	0.136583	0.714942	0.000000

my3

(S'_(n-9))^2	0.032798	0.814375	0.000793	0.025845	0.873626	0.000000
(S'_(n-10))^2	0.474907	0.922321	0.166247	6.989212	0.014222	0.522401

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum(w_i, (S'_(i-n))^2)
Standard error of regression = 0.010425
R squared = 0.431541 r = 0.656918

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.017740			
B1	0.000500	0.000222	2.256444	0.033426
B2	-0.005529	0.003184	-1.736299	0.095333
B3	0.001005	0.000377	2.668453	0.013443

RESULTS OF REGRESSION FOR VARIABLE P1:
DIVISION #2, BETWEEN 30.00 AND 60.00 (n = 31).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.010782
R squared = 0.000303 r = 0.017408

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.031421			
B1	0.000020	0.000218	0.093758	0.925946

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.150057	0.792585	0.022510	0.645005	0.428670	0.000000
S'_(n-1)	0.259396	0.537745	0.067266	2.019931	0.166289	1.000000
S'_(n-2)	0.138452	0.997093	0.019163	0.547218	0.465614	0.000000
S'_(n-3)	0.095947	0.515367	0.009203	0.260156	0.614010	0.000000
S'_(n-4)	0.011070	0.743317	0.000123	0.003432	0.953703	0.000000
S'_(n-5)	0.072987	0.804761	0.005325	0.149956	0.701505	0.000000

S'_(n-6)	0.173797	0.939236	0.030196	0.872090	0.358361	0.000000
S'_(n-7)	0.177731	0.712828	0.031579	0.913326	0.347412	0.000000
S'_(n-8)	0.077121	0.984892	0.005946	0.167532	0.685428	0.000000
S'_(n-9)	0.212789	0.779741	0.045265	1.327943	0.258916	0.000000
S'_(n-10)	0.151175	0.830964	0.022847	0.654871	0.425200	0.000000

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.010597
R squared = 0.067569 r = 0.259940

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.045200			
B1	-0.000262	0.000292	-0.896340	0.377713
B2	0.001560	0.001098	1.421243	0.166289

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.024616	0.551192	0.000565	0.016370	0.899140	0.000000
(S'_(n-1))^2	0.279840	0.915751	0.073019	2.294025	0.141493	0.486002
(S'_(n-2))^2	0.295960	0.898118	0.081674	2.592041	0.119033	0.513998
(S'_(n-3))^2	0.054173	0.806558	0.002736	0.079471	0.780165	0.000000
(S'_(n-4))^2	0.109327	0.875446	0.011145	0.326617	0.572385	0.000000
(S'_(n-5))^2	0.054767	0.867188	0.002797	0.081227	0.777816	0.000000
(S'_(n-6))^2	0.082599	0.829454	0.006362	0.185477	0.670127	0.000000
(S'_(n-7))^2	0.258507	0.903989	0.062310	1.933504	0.175732	0.000000
(S'_(n-8))^2	0.035947	0.909764	0.001205	0.034933	0.853133	0.000000
(S'_(n-9))^2	0.158387	0.860488	0.023391	0.694762	0.411863	0.000000
(S'_(n-10))^2	0.087663	0.982988	0.007166	0.209097	0.651134	0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum(w_i, (S'_(i-n))^2)
Standard error of regression = 0.010791
R squared = 0.067731 r = 0.260251

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.045194			
B1	-0.000265	0.000302	-0.878222	0.387572
B2	0.001589	0.001191	1.333617	0.193471
B3	0.000034	0.000498	0.068470	0.945916

RESULTS OF REGRESSION FOR VARIABLE P1:
DIVISION #3, BETWEEN 60.00 AND 100.00 (n = 40).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.008298
R squared = 0.030119 r = 0.173548

my3

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.042672			
B1	-0.000116	0.000107	-1.086307	0.284186

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.079904	0.645216	0.006192	0.237751	0.628712	0.000000
S'_(n-1)	0.059010	0.823671	0.003377	0.129289	0.721214	0.000000
S'_(n-2)	0.030519	0.881592	0.000903	0.034495	0.853672	0.000000
S'_(n-3)	0.010721	0.600307	0.000111	0.004253	0.948352	0.000000
S'_(n-4)	0.089010	0.995814	0.007684	0.295483	0.589988	0.000000
S'_(n-5)	0.143222	0.744437	0.019895	0.774862	0.384399	1.000000
S'_(n-6)	0.084890	0.711854	0.006989	0.268569	0.607379	0.000000
S'_(n-7)	0.044183	0.781692	0.001893	0.072372	0.789408	0.000000
S'_(n-8)	0.049312	0.936302	0.002358	0.090190	0.765617	0.000000
S'_(n-9)	0.015029	0.628750	0.000219	0.008359	0.927647	0.000000
S'_(n-10)	0.048366	0.985842	0.002269	0.086757	0.769987	0.000000

Partial results of regression (step #2).

Variables in: resp, sum[v_1 S'_(i-n)].
Standard error of regression = 0.008323
R squared = 0.050014 r = 0.223638

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.039039			
B1	-0.000061	0.000124	-0.489492	0.627383
B2	0.000850	0.000966	0.880263	0.384399

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.129528	0.913066	0.015938	0.614293	0.438303	0.000000
(S'_(n-1))^2	0.019062	0.879813	0.000345	0.013086	0.909560	0.000000
(S'_(n-2))^2	0.003174	0.986431	0.000010	0.000363	0.984911	0.000000
(S'_(n-3))^2	0.265824	0.979576	0.067128	2.737265	0.106727	0.506747
(S'_(n-4))^2	0.258745	0.964060	0.063601	2.583107	0.116746	0.493253
(S'_(n-5))^2	0.158314	0.535140	0.023810	0.925478	0.342458	0.000000
(S'_(n-6))^2	0.129579	0.944743	0.015951	0.614787	0.438120	0.000000
(S'_(n-7))^2	0.096271	0.679021	0.008805	0.336774	0.565312	0.000000
(S'_(n-8))^2	0.129309	0.771284	0.015885	0.612186	0.439082	0.000000
(S'_(n-9))^2	0.175767	0.893126	0.029349	1.147634	0.291175	0.000000
(S'_(n-10))^2	0.127253	0.951163	0.015383	0.592555	0.446455	0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_1 S'_(i-n)], sum[w_1, (S'_(i-n))^2)
Standard error of regression = 0.008437
R squared = 0.050166 r = 0.223977

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.039137			
B1	-0.000060	0.000126	-0.480059	0.634090
B2	0.000851	0.000979	0.868836	0.390692
B3	-0.000023	0.000298	-0.075841	0.939966

OVERALL REGRESSION FOR P1:
REGRESSION EQUATION = 1/P1 = b0 + b1 (phi) + b2 SUM(v S') + b3 SUM (w S'^2)

R squared = 0.225687, r = 0.475065, p = 0.000001.

RESULTS OF REGRESSION FOR VARIABLE P2:
DIVISION #1, BETWEEN 0.00 AND 15.00 (n = 13).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.001912
R squared = 0.189517 r = 0.435336

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.008364			
B1	-0.000175	0.000109	-1.603796	0.137062

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.590382	0.971757	0.282495	5.350397	0.043279	0.367792
S'_(n-1)	0.381247	0.971426	0.117803	1.700683	0.221417	0.000000
S'_(n-2)	0.507601	0.971802	0.208828	3.470901	0.092055	0.316222

my3

S'_(n-3)	0.408565	0.979275	0.135290	2.003722	0.187295	0.000000
S'_(n-4)	0.308840	0.913029	0.077305	1.054389	0.328695	0.000000
S'_(n-5)	0.507224	0.867010	0.208518	3.463957	0.092337	0.315987
S'_(n-6)	0.090205	0.920071	0.006595	0.082037	0.780402	0.000000
S'_(n-7)	0.342158	0.997624	0.094885	1.325951	0.276314	0.000000
S'_(n-8)	0.259684	0.982895	0.054655	0.723120	0.415019	0.000000
S'_(n-9)	0.207145	0.975565	0.034777	0.448326	0.518292	0.000000
S'_(n-10)	0.383737	0.999980	0.119347	1.726819	0.218162	0.000000

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.001966
R squared = 0.220779 r = 0.469871

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.009008			
B1	-0.000182	0.000113	-1.619988	0.136303
B2	0.000492	0.000777	0.633393	0.540692

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.774785	0.771932	0.467761	13.516468	0.005103	0.499433
(S'_(n-1))^2	0.443427	0.743782	0.153216	2.202775	0.171918	0.000000
(S'_(n-2))^2	0.429356	0.695492	0.143647	2.034100	0.187557	0.000000
(S'_(n-3))^2	0.209735	0.725474	0.034277	0.414116	0.535939	0.000000
(S'_(n-4))^2	0.776546	0.281909	0.469889	13.671381	0.004940	0.500567
(S'_(n-5))^2	0.026124	0.728369	0.000532	0.006146	0.939227	0.000000
(S'_(n-6))^2	0.208872	0.783646	0.033995	0.410558	0.537658	0.000000
(S'_(n-7))^2	0.454040	0.707188	0.160638	2.337182	0.160670	0.000000
(S'_(n-8))^2	0.245731	0.727871	0.047052	0.578378	0.466405	0.000000
(S'_(n-9))^2	0.100534	0.832118	0.007876	0.091892	0.768675	0.000000
(S'_(n-10))^2	0.193600	0.903343	0.029206	0.350463	0.568422	0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum[w_i, [S'_(i-n)]^2]
Standard error of regression = 0.001012
R squared = 0.814153 r = 0.902304

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.010831			
B1	-0.000089	0.000061	-1.472503	0.174973
B2	0.001231	0.000423	2.909947	0.017313
B3	-0.000484	0.000090	-5.360536	0.000456

RESULTS OF REGRESSION FOR VARIABLE P2:
DIVISION #2, BETWEEN 15.00 AND 45.00 (n = 31).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.002442
R squared = 0.345768 r = 0.588021

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.012706			
B1	-0.000191	0.000049	-3.914946	0.000504

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.537444	0.445231	0.188972	11.372627	0.002193	0.243417
S'_(n-1)	0.044882	0.999896	0.001318	0.056518	0.813818	0.000000
S'_(n-2)	0.095156	0.534736	0.005924	0.255846	0.616948	0.000000
S'_(n-3)	0.059026	0.765743	0.002279	0.097895	0.756689	0.000000
S'_(n-4)	0.126465	0.721346	0.010463	0.455090	0.505460	0.000000
S'_(n-5)	0.106865	0.993202	0.007471	0.323458	0.574071	0.000000
S'_(n-6)	0.396860	0.717619	0.103040	5.234324	0.029902	0.179744
S'_(n-7)	0.143099	0.979057	0.013397	0.585351	0.450623	0.000000
S'_(n-8)	0.412892	0.703791	0.111533	5.754442	0.023350	0.187005
S'_(n-9)	0.425578	0.772622	0.118492	6.192905	0.019044	0.192751
S'_(n-10)	0.435145	0.719363	0.123879	6.540226	0.016250	0.197084

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.002475
R squared = 0.351385 r = 0.592778

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.012418			
B1	-0.000183	0.000052	-3.515564	0.001514
B2	-0.000275	0.000558	-0.492428	0.626256

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.059404	0.892463	0.003289	0.095614	0.759531	0.000000

my3

(S'_(n-1))^2	0.249171	0.983380	0.040270	1.787296	0.192412	0.000000

(S'_(n-2))^2	0.265689	0.773379	0.041786	2.050711	0.163611	0.000000
(S'_(n-3))^2	0.238510	0.827273	0.031898	1.628600	0.212766	0.000000
(S'_(n-4))^2	0.000982	0.791541	0.000001	0.000046	0.995966	0.000000
(S'_(n-5))^2	0.223725	0.759958	0.031466	1.422682	0.243339	0.000000
(S'_(n-6))^2	0.217051	0.865562	0.030557	1.334905	0.258057	0.000000
(S'_(n-7))^2	0.132629	0.715328	0.011410	0.483450	0.492805	0.000000
(S'_(n-8))^2	0.320070	0.795452	0.066447	3.081726	0.090518	0.502330
(S'_(n-9))^2	0.171926	0.946379	0.019173	0.822408	0.372500	0.000000
(S'_(n-10))^2	0.317102	0.672134	0.065220	3.018460	0.093718	0.497670

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum{w_i, (S'_(i-n))^2}
Standard error of regression = 0.002520
R squared = 0.351440 r = 0.592824

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.012451			
B1	-0.000184	0.000053	-3.437076	0.001920
B2	-0.000273	0.000569	-0.480193	0.634958
B3	-0.000008	0.000159	-0.047719	0.962292

RESULTS OF REGRESSION FOR VARIABLE P2:
DIVISION #3, BETWEEN 45.00 AND 80.00 (n = 37).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.002627
R squared = 0.017952 r = 0.133984

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.004451			
B1	0.000032	0.000040	0.799873	0.429180

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.003108	0.867918	0.000009	0.000328	0.985646	0.000000
S'_(n-1)	0.037844	0.861615	0.001406	0.048763	0.826550	0.000000
S'_(n-2)	0.112429	0.574954	0.012413	0.435269	0.513859	0.000000
S'_(n-3)	0.062375	0.998621	0.003821	0.132798	0.717806	0.000000
S'_(n-4)	0.397385	0.679523	0.155080	6.375981	0.016398	0.541111
S'_(n-5)	0.274762	0.696393	0.074139	2.776401	0.104851	0.000000
S'_(n-6)	0.210207	0.747983	0.043394	1.571812	0.218496	0.000000
S'_(n-7)	0.007931	0.950096	0.000062	0.002139	0.963382	0.000000
S'_(n-8)	0.093986	0.660635	0.008675	0.303014	0.585598	0.000000
S'_(n-9)	0.080147	0.994314	0.006308	0.219811	0.642177	0.000000
S'_(n-10)	0.337002	0.792438	0.111532	4.356118	0.044444	0.458889

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.002342
R squared = 0.241846 r = 0.491778

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.000084			
B1	0.000119	0.000045	2.661531	0.011790
B2	0.001196	0.000378	3.168709	0.003231

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.047341	0.883934	0.001699	0.074113	0.787121	0.000000
(S'_(n-1))^2	0.060383	0.970325	0.002764	0.120761	0.730418	0.000000
(S'_(n-2))^2	0.307091	0.971250	0.071498	3.436100	0.072744	1.000000
(S'_(n-3))^2	0.072634	0.973895	0.004000	0.175022	0.678397	0.000000
(S'_(n-4))^2	0.047721	0.610234	0.001727	0.075313	0.785450	0.000000
(S'_(n-5))^2	0.084331	0.928465	0.000392	0.236371	0.630052	0.000000
(S'_(n-6))^2	0.020301	0.703138	0.000312	0.013605	0.907851	0.000000
(S'_(n-7))^2	0.202286	0.849817	0.031023	1.407955	0.243869	0.000000
(S'_(n-8))^2	0.101264	0.943209	0.007774	0.341903	0.562709	0.000000
(S'_(n-9))^2	0.085848	0.960378	0.005587	0.245010	0.623891	0.000000
(S'_(n-10))^2	0.007133	0.569912	0.000039	0.001679	0.967559	0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum{w_i, (S'_(i-n))^2}

my3

Standard error of regression = 0.002262
R squared = 0.313344 r = 0.559771

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.000877			
B1	0.000117	0.000043	2.709372	0.010606
B2	0.001277	0.00036[illegible]	3.476352	0.001446
B3	-0.000104	0.00005[illegible]	-1.853672	0.072744

RESULTS OF REGRESSION FOR VARIABLE P2:
DIVISION #4, BETWEEN 80.00 AND 100.00 (n = 18).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.002538
R squared = 0.021150 r = 0.145430

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.002764			
B1	0.000066	0.000111	0.587971	0.564759

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.597903	0.978298	0.349928	8.345881	0.011244	0.357230
S'_(n-1)	0.639709	1.000000	0.400573	10.390493	0.005684	0.382208
S'_(n-2)	0.436107	0.930643	0.186167	3.522841	0.080118	0.260561
S'_(n-3)	0.062650	0.910510	0.003842	0.059107	0.811207	0.000000
S'_(n-4)	0.252531	0.925898	0.062423	1.021739	0.328135	0.000000
S'_(n-5)	0.128217	0.999034	0.016092	0.250717	0.623838	0.000000
S'_(n-6)	0.262023	0.949837	0.067204	1.105758	0.309652	0.000000
S'_(n-7)	0.178061	0.999915	0.031035	0.491157	0.494140	0.000000

S'_(n-8)	0.145912	0.999958	0.020840	0.326302	0.576304	0.000000
S'_(n-9)	0.164235	0.956142	0.026403	0.415815	0.528772	0.000000
S'_(n-10)	0.047615	0.944039	0.002219	0.034085	0.855998	0.000000

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.002074
R squared = 0.387628 r = 0.622598

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	-0.001374			
B1	0.000102	0.00009[illegible]	1.114899	0.282438
B2	0.001520	0.00050[illegible]	2.996139	0.009044

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.151197	0.370582	0.013999	0.327534	0.576190	0.000000
(S'_(n-1))^2	0.313401	0.647292	0.060147	1.524859	0.237210	0.000000
(S'_(n-2))^2	0.306404	0.421739	0.057492	1.450551	0.248407	0.000000
(S'_(n-3))^2	0.346937	0.725169	0.073708	1.915697	0.188000	0.000000
(S'_(n-4))^2	0.238783	0.910137	0.034916	0.846507	0.373124	0.000000
(S'_(n-5))^2	0.043486	0.955179	0.001158	0.026515	0.872952	0.000000
(S'_(n-6))^2	0.054734	0.832634	0.001835	0.042067	0.840444	0.000000
(S'_(n-7))^2	0.286787	0.818926	0.050365	1.254642	0.281516	0.000000
(S'_(n-8))^2	0.514154	0.834472	0.161883	5.030909	0.041602	1.000000
(S'_(n-9))^2	0.275984	0.823879	0.046643	1.154261	0.300828	0.000000
(S'_(n-10))^2	0.148613	0.864425	0.013525	0.316186	0.582801	0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum[w_i, (S'_(i-n)]^2)
Standard error of regression = 0.001841
R squared = 0.549511 r = 0.741290

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	-0.003670			
B1	0.000116	0.000082	1.414905	0.178953
B2	0.001970	0.000493	3.995295	0.001328
B3	0.000204	0.000091	2.242969	0.041602

OVERALL REGRESSION FOR P2:
REGRESSION EQUATION = 1/P2 = b0 + b1 (ph1) + b2 SUM(v S') + b3 SUM (w S'^2)
R squared = 0.465085, r = 0.681971, p = 0.000000.

Results of detrending for pp :
Division #1, between 0.00 and 27.00 (n = 22).
Detrending equation: PP = b0 + b1 (PHI)
Standard error of regression = 1.626768
R squared = 0.402106 r = 0.634118

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	2.492171	0.786389	3.169134	0.004623
B1	-0.194063	0.051639	-3.758096	0.001157

my3

Results of detrending for pp :
Division #2, between 27.00 and 40.00 (n = 16).
Detrending equation: PP = b0 + b1 (PHI)
Standard error of regression = 1.659990
R squared = 0.129623 r = 0.360032

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	-7.897941	4.631757	-1.705172	0.110241
B1	0.214442	0.148511	1.443947	0.170759

Results of detrending for pp :
Division #3, between 40.00 and 63.00 (n = 33).
Detrending equation: PP = b0 + b1 (PHI)
Standard error of regression = 1.729207
R squared = 0.107334 r = 0.327619

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	3.286169	2.070712	1.586975	0.122667
B1	-0.076332	0.039537	-1.930656	0.062716

Results of detrending for pp :
Division #4, between 63.00 and 100.00 (n = 37).
Detrending equation: PP = b0 + b1 (PHI)
Standard error of regression = 1.268859
R squared = 0.000255 r = 0.015984

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	1.399639	1.701788	0.822452	0.416388
B1	-0.001903	0.020126	-0.094572	0.925194

Overall detrending for pp:
R squared = 0.383237, r = 0.619062, p = 0.000000.

Results of detrending for int :
Division #1, between 0.00 and 37.00 (n = 34).
Detrending equation: INT = b0 + b1 (PHI)
Standard error of regression = 0.038531
R squared = 0.306511 r = 0.553634

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.002285	0.014436	0.158258	0.875138
B1	-0.002545	0.000638	-3.988910	0.000311

Results of detrending for int :
Division #2, between 37.00 and 100.00 (n = 65).
Detrending equation: INT = b0 + b1 (PHI)
Standard error of regression = 0.054847
R squared = 0.437609 r = 0.661521

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	-0.147890	0.02468[illegible]	-5.991959	0.000000

B1	0.002552	0.000348	7.327384	0.000000

Overall detrending for int:
R squared = 0.557445, r = 0.746622, p = 0.000000.

Results of detrending for p1 :
Division #1, between 0.00 and 30.00 (n = 28).
Detrending equation: P1 = b0 + b1 (PHI)
Standard error of regression = 9.103274
R squared = 0.078441 r = 0.280073

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	4.781126	3.637898	1.314255	0.198721
B1	-0.288143	0.180317	-1.597978	0.120529

Results of detrending for p1 :
Division #2, between 30.00 and 60.00 (n = 31).
Detrending equation: P1 = b0 + b1 (PHI)
Standard error of regression = 9.560973
R squared = 0.023245 r = 0.152463

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	8.919940	9.000274	0.991074	0.329322

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B1          -0.165811          0.19304   -0.858919    0.396979


Results of detrending for p1 :
Division #3, between 60.00 and 100.00 (n = 40).
Detrending equation: P1 = b0 + b1 (PHI)
Standard error of regression = 6.342301
R squared = 0.008306  r = 0.091135

                 COEF        STD ERROR     T-VALUE     P-LEVEL
B0         -4.322940         6.220331   -0.694969    0.490902
B1          0.045348         0.076461    0.593091    0.556301


Overall detrending for p1:
R squared = 0.051056, r = 0.225956, p = 0.018152.

Results of detrending for p2 :
Division #1, between 0.00 and 15.00 (n = 13).
Detrending equation: P2 = b0 + b1 (PHI)
Standard error of regression = 132.444723
R squared = 0.075780  r = 0.275281

                 COEF        STD ERROR     T-VALUE     P-LEVEL
B0        -76.482207        81.000316   -0.944221    0.362276
B1          7.383973         7.152036    1.032429    0.320697


Results of detrending for p2 :
Division #2, between 15.00 and 45.00 (n = 31).
Detrending equation: P2 = b0 + b1 (PHI)




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Standard error of regression = 128.640689
R squared = 0.191637  r = 0.437763

                 COEF        STD ERROR     T-VALUE     P-LEVEL
B0        -194.837273        82.924504   -2.349574    0.025129
B1          6.855028         2.488848    2.754298    0.009619


Results of detrending for p2 :
Division #3, between 45.00 and 80.00 (n = 37).
Detrending equation: P2 = b0 + b1 (PHI)
Standard error of regression = 73.540738
R squared = 0.013649  r = 0.116827

                 COEF        STD ERROR     T-VALUE     P-LEVEL
B0         48.778713        67.817580    0.719264    0.476267
B1         -0.768362         1.045938   -0.734615    0.466968


Results of detrending for p2 :
Division #4, between 80.00 and 100.00 (n = 18).
Detrending equation: P2 = b0 + b1 (PHI)
Standard error of regression = 80.043934
R squared = 0.007723  r = 0.087882

                 COEF        STD ERROR     T-VALUE     P-LEVEL
B0        -162.094104       324.893337   -0.498915    0.624234
B1          1.272331         3.497790    0.363753    0.720527


Overall detrending for p2:
R squared = 0.161020, r = 0.401273, p = 0.000015.

Results of linear model for pp :
Linear model equation: PP = b0 + b1 (I_n-1) + b2 (D_n)
Standard error of linear model = 1.214614
R squared = 0.362452  r = 0.602040

                 COEF        STD ERROR     T-VALUE           P
B0         52.054280         3.424070   15.202456    0.000000
B1         11.228573         2.723049    4.123530    0.000075
B2         -0.178285         0.045782   -3.894212    0.000173

Overall results of linear modelling of pp
   after retrending: R-squared = 0.623289, r = 0.789487.


Results of linear model for int :
Linear model equation: INT = b0 + b1 (S_n) + ... + b(1+m) (S_n-m)
Standard error of linear model = 0.045954
R squared = 0.183786  r = 0.428702

                 COEF        STD ERROR     T-VALUE           P
B0         -0.345378         0.547277   -0.631084    0.529425
B1         -0.004425         0.003135   -1.411192    0.161292
B2          0.008393         0.003413    2.459249    0.015640
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my3

B3	0.002650	0.003421	0.774804	0.440283
B4	-0.003965	0.003385	-1.171196	0.244303
B5	0.000427	0.003342	0.127859	0.898518
B6	-0.003040	0.003056	-0.994823	0.322224
B7	0.005309	0.003428	1.548592	0.124639
B8	0.000450	0.003428	0.131447	0.895686
B9	-0.004182	0.003480	-1.201560	0.232372
B10	0.005816	0.003487	1.667900	0.098464
B11	0.005012	0.003134	1.599077	0.112958

Overall results of linear modelling of int
after retrending: R-squared = 0.663713, r = 0.814686.

Results of linear model for p1 :
Linear model equation: P1 = b0 + b1 (S_n) + ... + b(1+m) (S_n-m)
Standard error of linear model = 8.281953
R squared = 0.078827 r = 0.280762

	COEF	STD ERROR	T-VALUE	P
B0	108.228644	98.631230	1.097306	0.275143
B1	0.581663	0.565079	1.029348	0.305799
B2	-1.097457	0.615096	-1.784204	0.077423
B3	0.385887	0.616493	0.625939	0.532781
B4	-0.014800	0.610112	-0.024258	0.980695
B5	0.484629	0.602336	0.804583	0.422969
B6	-0.521095	0.550691	-0.946256	0.346299
B7	0.089010	0.617847	0.144064	0.885740
B8	0.094952	0.617462	0.153778	0.878095
B9	-0.450413	0.627189	-0.718146	0.474342
B10	0.384800	0.628450	0.612300	0.541729
B11	-0.752796	0.564832	-1.332780	0.185633

Overall results of linear modelling of p1
after retrending: R-squared = 0.140409, r = 0.374712.

Results of linear model for p2 :
Linear model equation: P2 = b0 + b1 (S_n) + ... + b(1+m) (S_n-m)
Standard error of linear model = 100.670945
R squared = 0.072959 r = 0.270110

	COEF	STD ERROR	T-VALUE	P
B0	1935.973871	1198.907968	1.614781	0.109509
B1	-2.052222	6.868794	-0.298775	0.765732
B2	-6.601550	7.476776	-0.882941	0.379386
B3	-3.627883	7.493755	-0.484121	0.629359
B4	4.002932	7.416196	0.539755	0.590566
B5	-4.382298	7.321667	-0.598538	0.550834
B6	0.916202	6.693904	0.136871	0.891408
B7	1.979521	7.510216	0.263577	0.792648
B8	3.597202	7.505533	0.479272	0.632791
B9	-0.823721	7.623772	-0.108046	0.914175
B10	-5.312749	7.639100	-0.695468	0.488375
B11	-6.540974	6.865790	-0.952691	0.343044

Overall results of linear modelling of p2
after retrending: R-squared = 0.258805, r = 0.508729.

Results of linear model for diast :
Linear model equation: D_n+1 = b0 + b1(D) + b2(D') + b3(D'') + b4(PP) + b5(INT) + b6(P1) + b7(P2)
Standard error of linear model = 2.083849
R squared = 0.514390 r = 0.717210

	COEF	STD ERROR	T-VALUE	P
B0	18.058708	11.107076	1.625874	0.107124
B1	0.565366	0.097595	5.793008	0.000000
B2	-0.005180	0.019485	-0.265842	0.790909
B3	0.001475	0.001181	1.248172	0.214883
B4	0.404486	0.166638	2.427336	0.016999
B5	-27.610619	5.739255	-4.810837	0.000005
B6	-0.008846	0.026203	-0.337610	0.736365
B7	-0.003202	0.002796	-1.145468	0.254749

Results of linear model for ddiast :
Linear model equation: D'_n+1 = b0 + b1(D) + b2(D') + b3(D'') + b4(PP) + b5(INT) + b6(P1) + b7(P2)
Standard error of linear model = 21.109738
R squared = 0.259676 r = 0.509584

	COEF	STD ERROR	T-VALUE	P
B0	63.873070	112.516546	0.567677	0.571527
B1	-0.776309	0.988649	-0.785222	0.434190

B2	0.618674	0.197383	3.134383	0.002261
B3	-0.044842	0.011968	-3.746713	0.000300
B4	-2.735741	1.688070	-1.620633	0.108246
B5	127.852513	58.139619	2.199060	0.030178
B6	-0.361817	0.265437	-1.363100	0.175912
B7	0.043905	0.028320	1.550330	0.124222

Results of linear model for dddiast :
Linear model equation: D''_n+1 = b0 + b1(D) + b2(D') + b3(D'') + b4(PP) + b5(INT) + b6(P1) + b7(P2)
Standard error of linear model = 392.016849
R squared = 0.082007 r = 0.286368

	COEF	STD ERROR	T-VALUE	P
B0	1814.901047	2089.480263	0.868590	0.387151
B1	-5.553845	18.359634	-0.302503	0.762897
B2	6.181202	3.665485	1.686326	0.094851
B3	-0.410475	0.222255	-1.846864	0.067724
B4	-18.437416	31.348173	-0.588150	0.557758
B5	-412.229576	1079.677539	-0.381808	0.703414
B6	-4.309058	4.929281	-0.874176	0.384117
B7	0.611654	0.525913	1.163033	0.247584

Results of windkessel model for diast :
Overall results for diast:
R-squared = 0.914293, r = 0.956187.

NONLINEAR FORECAST RESULTS (In-sample, n = 89):

STEP	PP	INT	P1	P2	DIAST

0	0.879679	0.827844	0.213730	0.145015	1.000000
1	0.536541	0.558955	0.169496	0.230829	0.625710
2	0.050644	0.564519	0.127213	0.184279	0.290247
3	0.032434	0.460506	0.111984	0.168298	-0.016061
4	-0.018885	0.563538	-0.021804	0.197184	-0.194456
5	-0.058499	0.486701	0.108220	0.205459	-0.185323
6	-0.071990	0.440934	0.098583	0.252142	-0.100906
7	-0.321618	0.284593	0.067664	0.118350	-0.121828
8	-0.182495	0.197614	0.084301	0.023445	-0.209686
9	-0.220423	0.189783	0.024647	0.079983	-0.144858
10	-0.244620	0.249743	-0.037038	0.058510	-0.176776

NONLINEAR FORECAST RESULTS (Out-of-sample, n = 77):

STEP	PP	INT	P1	P2	DIAST
0	0.745578	0.782870	0.126914	0.116961	1.000000
1	0.387757	0.494255	0.024095	0.043706	0.445311
2	0.080210	0.423275	-0.050794	0.130390	0.271023
3	-0.121134	0.312757	-0.020238	0.108542	0.015710
4	-0.114335	0.312857	0.026747	0.151290	-0.063851
5	-0.179849	0.291842	-0.094753	0.171348	-0.017177
6	-0.184170	0.242374	-0.027009	0.210967	0.025556
7	-0.299738	0.162606	-0.026896	0.169882	-0.103743
8	-0.278100	0.131212	-0.006465	0.199587	-0.150011
9	-0.271000	0.112622	-0.001676	0.177234	-0.083144
10	0.025205	0.101217	0.190216	0.053268	-0.037373

LINEAR FORECAST RESULTS (In-sample, n = 89):

STEP	PP	INT	P1	P2	DIAST
0	-0.022899	0.137631	-0.060192	0.339659	1.000000
1	-0.029978	0.137227	-0.077853	0.333892	0.678393
2	-0.023129	0.114033	-0.077058	0.328257	0.327871
3	-0.049491	0.091381	-0.019360	0.326293	0.086618
4	-0.052021	0.079749	-0.034020	0.306010	0.049124
5	-0.056997	0.116089	-0.031241	0.289621	0.062209
6	-0.035915	0.148556	-0.043398	0.306015	0.067255
7	-0.002081	0.166612	-0.015755	0.333764	-0.119811
8	0.036857	0.154627	-0.048999	0.318709	-0.085952
9	0.026149	0.145628	-0.034710	0.323286	-0.016643
10	0.050831	0.121836	-0.056163	0.303470	-0.029975

LINEAR FORECAST RESULTS (Out-of-sample, n = 77):

STEP	PP	INT	P1	P2	DIAST
0	0.183745	0.099475	0.068668	-0.075291	1.000000
1	0.174555	0.086758	0.052436	-0.075262	0.719488
2	0.156408	0.049366	0.057691	-0.093967	0.254972
3	0.140974	0.078530	0.000120	-0.092738	-0.018452
4	0.143562	0.117323	0.052824	-0.053818	-0.006610
5	0.148463	0.115690	0.008513	-0.075609	0.008626
6	0.122911	0.088742	0.021608	-0.064480	0.020932
7	0.083191	0.049842	0.009474	-0.081240	-0.108573

my3

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8      0.059358  0.059634  0.030104 -0.104554 -0.062950
9      0.041652  0.086475 -0.008479 -0.116956 -0.079586
10     0.041851  0.123419  0.025107 -0.089424 -0.095486


Error analysis for long forecast into file nlfk.co:
Errors in p1: 0
Errors in p2: 9
Errors in p5: 0
Post inflection adjustment in p5: 0
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In-sample data for beats 1 through 100 (n = 100):
BEATNO       TIME    INT   DIAS  DIAS'   DIAS''    SYST     PP      P1      P2      P3          P4      P5      P6    RESP

AVG      3792.070 0.767  50.50 -27.58  -118.39   98.15  47.66   13.87   79.71  451.37    94209.61   37.85  -24.67   51.06
STDDEV     22.233 0.065   1.80  22.61   421.82    4.80   3.90    0.80   26.79    9.30     4955.89    7.68   12.65   29.26


Out-of-sample data for beats 101 through 192 (n = 92):
BEATNO       TIME    INT   DIAS  DIAS'   DIAS''    SYST     PP      P1      P2      P3          P4      P5      P6    RESP

AVG      3865.146 0.752  51.68 -30.35  -116.30   99.50  47.82   13.28   76.78  456.35    92618.09   36.82  -25.59   52.79
STDDEV     20.046 0.062   1.58  21.95   408.20    4.23   3.42    0.79   25.05   10.06     4200.16    8.79   11.04   27.77


Results of regression for p3 :
Regression equation: P3 = b0 + b1 (P1) + b2 (P1)^2
Standard error of regression = 9.204160
R squared = 0.039606   r = 0.199014

              COEF        STD ERROR      T-VALUE          P
B0       656.350351      230.724637     2.844735   0.005422
B1       -31.182352       32.830865    -0.949788   0.344581
B2         1.178819        1.16537     1.011540   0.314275


Results of regression for p4 :
Regression equation: P4 = b0 + b1 (PP)
Standard error of regression = 3975.714870
R squared = 0.362944   r = 0.602449
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my3

	COEF	STD ERROR	T-VALUE	P
B0	57721.236793	4899.420868	11.781237	0.000000
B1	765.656865	102.468371	7.472129	0.000000

Results of regression for p5 :
Regression equation: P5 = b0 + b1 (P2) + b2 (P2)^2 + b3 (P2)^3
Standard error of regression = 2.204565
R squared = 0.920016 r = 0.959175

	COEF	STD ERROR	T-VALUE	P
B0	1.868319	7.014994	0.266332	0.790555
B1	0.611945	0.255601	2.394147	0.018602
B2	-0.001441	0.002920	-0.493309	0.622921
B3	-0.000004	0.000011	-0.361093	0.718823

Results of regression for p6 :
Regression equation: P6 = b0 + b1 (P1)
Standard error of regression = 12.710862
R squared = 0.000639 r = 0.025288

	COEF	STD ERROR	T-VALUE	P
B0	-30.247416	22.312476	-1.355628	0.178333
B1	0.402166	1.605992	0.250416	0.802790

Results of regression for pp :
Division #1, between 0.00 and 30.00 (n = 26).
Regression equation: PP = b0 + b1 (PHI) + b2 (I_n-1) + b3 (D)
Standard error of regression = 2.094993
R squared = 0.667663 r = 0.817107

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	5.182772	21.390876	0.242289	0.810801
B1	-0.464712	0.075858	-6.126110	0.000004
B2	-2.912521	9.676274	-0.300996	0.766244
B3	1.009028	0.401669	2.512092	0.019836

Results of regression for pp :
Division #2, between 30.00 and 65.00 (n = 37).
Regression equation: PP = b0 + b1 (PHI) + b2 (I_n-1) + b3 (D)
Standard error of regression = 2.285779
R squared = 0.717778 r = 0.847218

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	41.814781	26.486064	1.578747	0.123933
B1	0.313652	0.044787	7.003261	0.000000
B2	-12.257651	13.106418	-0.935240	0.356458
B3	-0.002336	0.420608	-0.005554	0.995602

Results of regression for pp :
Division #3, between 65.00 and 100.00 (n = 35).
Regression equation: PP = b0 + b1 (PHI) + b2 (I_n-1) + b3 (D)
Standard error of regression = 1.130113
R squared = 0.577379 r = 0.759855

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	38.337022	8.372862	4.578724	0.000072
B1	-0.078838	0.024964	-3.158061	0.003528
B2	1.180630	4.502181	0.262235	0.794875
B3	0.338420	0.129017	2.623060	0.013395

Overall regression for pp:
R squared = 0.671841, r = 0.819659, p = 0.000000.

RESULTS OF REGRESSION FOR VARIABLE INT:
DIVISION #1, BETWEEN 0.00 AND 42.00 (n = 34).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.032973
R squared = 0.712245 r = 0.843946

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.859025			
B1	-0.004581	0.000519	-8.899753	0.000000

my3

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.453295	0.997143	0.059127	8.017085	0.008067	0.134601
S'_(n-1)	0.438072	0.550222	0.055222	7.361924	0.010777	0.130081
S'_(n-2)	0.468403	0.524440	0.063134	8.713124	0.005974	0.139088
S'_(n-3)	0.043431	0.653741	0.000543	0.058584	0.810343	0.000000
S'_(n-4)	0.521574	0.896630	0.076281	11.584725	0.001853	0.154876
S'_(n-5)	0.473345	0.415291	0.064473	8.951320	0.005399	0.140555
S'_(n-6)	0.134597	0.651329	0.005213	0.571966	0.455188	0.000000
S'_(n-7)	0.378823	0.835864	0.041295	5.194108	0.029704	0.112488
S'_(n-8)	0.313311	0.583506	0.028247	3.374316	0.075825	0.093035
S'_(n-9)	0.116386	0.542124	0.003898	0.425682	0.518924	0.000000
S'_(n-10)	0.320858	0.892478	0.029624	3.557705	0.068669	0.095276

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.033145
R squared = 0.718319 r = 0.847537

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.857804			
B1	-0.004441	0.000545	-8.148617	0.000000
B2	0.003792	0.004638	0.817646	0.419800

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.381710	0.886119	0.041042	5.116574	0.031104	0.147818
(S'_(n-1))^2	0.148003	0.596949	0.006170	0.671865	0.418867	0.000000
(S'_(n-2))^2	0.487586	0.972698	0.066967	9.356648	0.004646	0.188818
(S'_(n-3))^2	0.099664	0.607015	0.002798	0.300980	0.587329	0.000000
(S'_(n-4))^2	0.415412	0.734149	0.048609	6.256701	0.018059	0.160869
(S'_(n-5))^2	0.536295	0.984703	0.081015	12.111903	0.001556	0.207681
(S'_(n-6))^2	0.077827	0.677157	0.001706	0.182818	0.672016	0.000000
(S'_(n-7))^2	0.354907	0.729332	0.035480	4.323341	0.046239	0.137438
(S'_(n-8))^2	0.116228	0.780354	0.003805	0.410821	0.526420	0.000000
(S'_(n-9))^2	0.042514	0.782220	0.000509	0.054322	0.817289	0.000000
(S'_(n-10))^2	0.406391	0.879125	0.046521	5.934768	0.020996	0.157376

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum[w_i, (S'_(i-n))^2]
Standard error of regression = 0.033273
R squared = 0.725303 r = 0.851645

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.871409			
B1	-0.004441	0.000547	-8.117290	0.000000
B2	0.003905	0.004658	0.838313	0.408485
B3	-0.000651	0.000746	-0.873116	0.389535

RESULTS OF REGRESSION FOR VARIABLE INT:
DIVISION #2, BETWEEN 42.00 AND 90.00 (n = 45).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.042619
R squared = 0.594082 r = 0.770767

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.526765			
B1	0.003715	0.000468	7.933009	0.000000

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.255468	0.999861	0.026492	2.932479	0.094189	0.130175
S'_(n-1)	0.521628	0.384650	0.110449	15.699888	0.000282	0.265798
S'_(n-2)	0.527073	0.387267	0.112767	16.156137	0.000237	0.268573
S'_(n-3)	0.066511	0.999913	0.001796	0.186623	0.667952	0.000000
S'_(n-4)	0.243879	0.478167	0.024143	2.655999	0.110638	0.000000
S'_(n-5)	0.123928	0.416970	0.006224	0.654033	0.423232	0.000000
S'_(n-6)	0.012620	0.654875	0.000065	0.006690	0.935199	0.000000
S'_(n-7)	0.204320	0.826616	0.016946	1.829751	0.183395	0.000000
S'_(n-8)	0.394598	0.350487	0.063204	7.745784	0.008034	0.201069
S'_(n-9)	0.263730	0.672405	0.028233	3.139611	0.083667	0.134385
S'_(n-10)	0.023778	0.905968	0.000229	0.023759	0.878237	0.000000

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.033393
R squared = 0.756599 r = 0.869827

my3

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.723105			
B1	0.000713	0.000675	1.055560	0.297204
B2	0.013886	0.002622	5.295568	0.000004

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.025182	0.806728	0.000154	0.026015	0.872655	0.000000
(S'_(n-1))^2	0.344179	0.849902	0.028833	5.509474	0.023823	1.000000
(S'_(n-2))^2	0.058689	0.753097	0.000838	0.141709	0.708529	0.000000
(S'_(n-3))^2	0.002963	0.996874	0.000002	0.000360	0.984955	0.000000
(S'_(n-4))^2	0.246458	0.682598	0.014785	2.651463	0.111116	0.000000
(S'_(n-5))^2	0.165151	0.987499	0.006639	1.149631	0.289897	0.000000
(S'_(n-6))^2	0.230020	0.816673	0.012878	2.290471	0.137842	0.000000
(S'_(n-7))^2	0.159968	0.984120	0.006229	1.076708	0.305512	0.000000
(S'_(n-8))^2	0.144769	0.987935	0.005101	0.877671	0.354326	0.000000
(S'_(n-9))^2	0.249969	0.783990	0.015209	2.732618	0.105956	0.000000
(S'_(n-10))^2	0.198826	0.907720	0.009622	1.687512	0.201187	0.000000

Final results of regression (step #3).

Variables in: resp, sum(v_i S'_(i-n)], sum(w_i, [S'_(i-n)]^2)
Standard error of regression = 0.031733
R squared = 0.785432 r = 0.886246

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.679195			
B1	0.001188	0.000673	1.765311	0.084959
B2	0.011454	0.002698	4.244822	0.000122
B3	0.000615	0.000262	2.347227	0.023823

RESULTS OF REGRESSION FOR VARIABLE INT:
DIVISION #3, BETWEEN 90.00 AND 100.00 (n = 11).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.025918
R squared = 0.349546 r = 0.591224

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	1.563028			
B1	-0.007508	0.003414	-2.199200	0.055413

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.311627	0.831012	0.063167	0.860451	0.380747	0.000000
S'_(n-1)	0.394458	0.620759	0.101209	1.474154	0.259314	0.000000
S'_(n-2)	0.045022	0.655848	0.001318	0.016249	0.901714	0.000000
S'_(n-3)	0.261502	0.996155	0.044480	0.587221	0.465504	0.000000
S'_(n-4)	0.208338	0.985451	0.028233	0.362992	0.563533	0.000000
S'_(n-5)	0.085989	0.999998	0.004809	0.059593	0.813285	0.000000
S'_(n-6)	0.175584	0.878584	0.020053	0.254485	0.627533	0.000000
S'_(n-7)	0.256083	0.796782	0.042656	0.561448	0.475131	0.000000
S'_(n-8)	0.228488	0.868675	0.033958	0.440658	0.525470	0.000000
S'_(n-9)	0.707056	0.982097	0.325180	7.997694	0.022218	1.000000
S'_(n-10)	0.396117	0.923052	0.102062	1.488891	0.257134	0.000000

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.019440
R squared = 0.674726 r = 0.821417

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	1.503588			
B1	-0.006530	0.002584	-2.527300	0.035404
B2	-0.008160	0.002885	-2.828019	0.022218

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.148077	0.717160	0.007132	0.156929	0.703797	0.000000
(S'_(n-1))^2	0.005176	0.627878	0.000009	0.000188	0.989455	0.000000
(S'_(n-2))^2	0.258814	0.530453	0.021788	0.502555	0.501300	0.000000
(S'_(n-3))^2	0.327167	0.970304	0.034817	0.839084	0.390124	0.000000
(S'_(n-4))^2	0.027220	0.624381	0.000241	0.005190	0.944581	0.000000
(S'_(n-5))^2	0.114889	0.997877	0.004293	0.093633	0.768508	0.000000
(S'_(n-6))^2	0.025298	0.955527	0.000208	0.004483	0.948491	0.000000

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(S'_(n-7))^2	0.237766	0.620749	0.018389	0.419441	0.537869	0.000000
(S'_(n-8))^2	0.259765	0.442733	0.021949	0.506524	0.499672	0.000000
(S'_(n-9))^2	0.128595	0.075302	0.005379	0.117702	0.741613	0.000000
(S'_(n-10))^2	0.399589	0.858921	0.051937	1.330075	0.286647	1.000000

Final results of regression (step #3).

Variables in: resp, sum(v_i S'_(i-n)], sum(w_i, (S'_(i-n)]^2)
Standard error of regression = 0.019051
R squared = 0.726663 r = 0.852445

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	1.538886			
B1	-0.007012	0.002566	-2.732321	0.029241
B2	-0.006892	0.003034	-2.271539	0.057347
B3	0.000466	0.000404	1.153289	0.286647

OVERALL REGRESSION FOR INT:
REGRESSION EQUATION = I_n = b0 + b1 (phi) + b2 SUM(v S') + b3 SUM (w S'^2)
R squared = 0.805709, r = 0.897613, p = 0.000000.

RESULTS OF REGRESSION FOR VARIABLE P1:
DIVISION #1, BETWEEN 0.00 AND 30.00 (n = 23).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.003930
R squared = 0.039811 r = 0.199527

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.071646			
B1	0.000100	0.000107	0.933108	0.361370

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.185285	0.819994	0.032964	0.711017	0.409078	0.000000
S'_(n-1)	0.168802	0.743773	0.027360	0.586600	0.452682	0.000000
S'_(n-2)	0.134741	0.728842	0.017432	0.369817	0.549948	0.000000
S'_(n-3)	0.359323	0.913910	0.123973	2.965085	0.100511	0.000000
S'_(n-4)	0.444786	0.690093	0.189959	4.932522	0.038067	0.513827
S'_(n-5)	0.313030	0.555569	0.094087	2.172644	0.156051	0.000000
S'_(n-6)	0.130930	0.937892	0.016460	0.348834	0.561389	0.000000
S'_(n-7)	0.019097	0.823815	0.000350	0.007297	0.932775	0.000000
S'_(n-8)	0.344215	0.679842	0.113767	2.688187	0.116730	0.000000
S'_(n-9)	0.410856	0.722317	0.162083	4.061678	0.057505	0.480173
S'_(n-10)	0.204478	0.996045	0.040147	0.872718	0.361347	0.000000

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.004025
R squared = 0.040577 r = 0.201436

	COEF	STD ERROR	T-VALUE	P-LEVEL

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B0	0.071470			
B1	0.000099	0.000110	0.904906	0.376287
B2	0.000058	0.000461	0.126350	0.900716

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.384388	0.754709	0.141758	3.294028	0.085352	0.178958
(S'_(n-1))^2	0.501986	0.800953	0.241766	6.400745	0.020407	0.233709
(S'_(n-2))^2	0.139148	0.783539	0.018577	0.375145	0.547474	0.000000
(S'_(n-3))^2	0.412859	0.838393	0.163536	3.904056	0.062874	0.192214
(S'_(n-4))^2	0.340342	0.613645	0.111133	2.489144	0.131138	0.000000
(S'_(n-5))^2	0.162208	0.741687	0.025244	0.513428	0.482374	0.000000
(S'_(n-6))^2	0.016101	0.926613	0.000249	0.004927	0.944776	0.000000
(S'_(n-7))^2	0.031181	0.867956	0.000933	0.018491	0.893267	0.000000
(S'_(n-8))^2	0.169850	0.950319	0.027678	0.564414	0.461692	0.000000
(S'_(n-9))^2	0.371765	0.586537	0.132601	3.047121	0.097031	0.173082
(S'_(n-10))^2	0.476917	0.447685	0.216220	5.593866	0.028816	0.222037

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum(w_i, (S'_(i-n)]^2)
Standard error of regression = 0.003471
R squared = 0.322369 r = 0.567776

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.073639			
B1	0.000116	0.000095	1.222481	0.236475
B2	0.001087	0.000541	2.011279	0.058700
B3	-0.000262	0.000093	-2.810896	0.011156

RESULTS OF REGRESSION FOR VARIABLE P1:
DIVISION #2, BETWEEN 30.00 AND 60.00 (n = 29).

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Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.003348
R squared = 0.146150 r = 0.382295

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.079379			
B1	-0.000153	0.000071	-2.149761	0.040693

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.300271	0.368092	0.076986	2.576543	0.120538	0.515483
S'_(n-1)	0.080336	0.709036	0.005511	0.168893	0.684466	0.000000
S'_(n-2)	0.001033	0.693129	0.000001	0.000028	0.995838	0.000000
S'_(n-3)	0.003918	0.634970	0.000013	0.000399	0.984213	0.000000
S'_(n-4)	0.156107	0.620453	0.020808	0.649433	0.427625	0.000000
S'_(n-5)	0.093626	0.909365	0.007485	0.229925	0.635589	0.000000
S'_(n-6)	0.062193	0.654550	0.003303	0.100958	0.753220	0.000000
S'_(n-7)	0.047937	0.586329	0.001962	0.059884	0.808600	0.000000
S'_(n-8)	0.282234	0.993429	0.068014	2.250300	0.145635	0.484517

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S'_(n-9)	0.175115	0.708411	0.026183	0.822517	0.372775	0.000000
S'_(n-10)	0.090311	0.581128	0.006964	0.213804	0.647649	0.000000

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.003412
R squared = 0.146282 r = 0.382468

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.079168			
B1	-0.000149	0.000094	-1.578876	0.126455
B2	-0.000019	0.000305	-0.063483	0.949867

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.374234	0.869246	0.119564	4.071496	0.054467	0.259672
(S'_(n-1))^2	0.335887	0.551174	0.096316	3.179176	0.086730	0.233064
(S'_(n-2))^2	0.015932	0.719419	0.000217	0.006347	0.937134	0.000000
(S'_(n-3))^2	0.335135	0.622362	0.095886	3.163162	0.087482	0.232542
(S'_(n-4))^2	0.395924	0.908520	0.133825	4.647398	0.040921	0.274722
(S'_(n-5))^2	0.231543	0.954891	0.045770	1.416235	0.245203	0.000000
(S'_(n-6))^2	0.037894	0.723275	0.001226	0.035951	0.851148	0.000000
(S'_(n-7))^2	0.165863	0.921978	0.023486	0.707220	0.408340	0.000000
(S'_(n-8))^2	0.209327	0.483908	0.037408	1.145646	0.294688	0.000000
(S'_(n-9))^2	0.100961	0.825863	0.008702	0.257453	0.616323	0.000000
(S'_(n-10))^2	0.308350	0.843565	0.081171	2.626736	0.117624	0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum[w_i, [S'_(i-n)]^2)
Standard error of regression = 0.002817
R squared = 0.440606 r = 0.663782

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.086479			
B1	-0.000232	0.000081	-2.859523	0.008440
B2	0.000139	0.000255	0.545881	0.589986
B3	-0.000192	0.000053	-3.626804	0.001283

RESULTS OF REGRESSION FOR VARIABLE P1:
DIVISION #3, BETWEEN 60.00 AND 85.00 (n = 25).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.003774
R squared = 0.268280 r = 0.517958

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.049025			
B1	0.000287	0.000099	2.903927	0.007998

Variables not in model:

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PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT

S'_(n-0)	0.747299	0.620951	0.408633	27.825124	0.000027	0.542151
S'_(n-1)	0.631098	0.942034	0.291432	14.562110	0.000944	0.457849
S'_(n-2)	0.008583	0.500350	0.000054	0.001621	0.968250	0.000000
S'_(n-3)	0.312147	0.859033	0.071296	2.374999	0.137554	0.000000
S'_(n-4)	0.159057	0.771122	0.018512	0.571029	0.457865	0.000000
S'_(n-5)	0.030144	0.688159	0.000665	0.020009	0.888799	0.000000
S'_(n-6)	0.122931	0.686293	0.011058	0.337568	0.567142	0.000000
S'_(n-7)	0.252136	0.950103	0.046517	1.493541	0.234601	0.000000
S'_(n-8)	0.101180	0.630522	0.007491	0.227551	0.638050	0.000000
S'_(n-9)	0.070758	0.662041	0.003663	0.110701	0.742497	0.000000
S'_(n-10)	0.100282	0.993814	0.007358	0.223489	0.641051	0.000000

Partial results of regression (step #2).

Variables in: resp, sum(v_i S'_(i-n)].
Standard error of regression = 0.002499
R squared = 0.693173 r = 0.832570

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.063940			
B1	0.000165	0.000069	2.383320	0.026219
B2	-0.001532	0.000278	-5.519565	0.000015

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.083940	0.227530	0.002162	0.149015	0.703361	0.000000
(S'_(n-1))^2	0.189850	0.261867	0.011059	0.785206	0.385589	0.000000
(S'_(n-2))^2	0.217433	0.994352	0.014506	1.042088	0.318953	0.000000
(S'_(n-3))^2	0.557602	0.898639	0.095398	9.475411	0.005702	1.000000
(S'_(n-4))^2	0.270952	0.887423	0.022526	1.663873	0.211106	0.000000
(S'_(n-5))^2	0.077190	0.962610	0.001828	0.125873	0.726289	0.000000
(S'_(n-6))^2	0.162814	0.816307	0.008133	0.571834	0.457931	0.000000
(S'_(n-7))^2	0.307107	0.968674	0.028938	2.186859	0.154037	0.000000
(S'_(n-8))^2	0.148447	0.848385	0.006761	0.473194	0.499050	0.000000
(S'_(n-9))^2	0.023378	0.804019	0.000168	0.011484	0.915677	0.000000
(S'_(n-10))^2	0.271079	0.899722	0.022547	1.665555	0.210884	0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum(w_i, (S'_(i-n)]^2)
Standard error of regression = 0.002123
R squared = 0.788572 r = 0.888016

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.070144			
B1	0.000104	0.000062	1.683392	0.107108
B2	-0.001590	0.000237	-6.720884	0.000001
B3	-0.000065	0.000021	-3.078215	0.005702

RESULTS OF REGRESSION FOR VARIABLE P1:
DIVISION #4, BETWEEN 85.00 AND 100.00 (n = 13).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.003440
R squared = 0.052454 r = 0.229029

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.051178			
B1	0.000230	0.000295	0.780347	0.451652

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.650635	0.807878	0.401121	7.340825	0.021956	0.540499
S'_(n-1)	0.553133	0.728776	0.289907	4.408312	0.062119	0.459501
S'_(n-2)	0.303102	0.905412	0.087052	1.011647	0.338226	0.000000
S'_(n-3)	0.106747	0.856395	0.010797	0.115263	0.741252	0.000000
S'_(n-4)	0.029194	0.848095	0.000808	0.008530	0.928237	0.000000
S'_(n-5)	0.031620	0.999282	0.000947	0.010008	0.922290	0.000000
S'_(n-6)	0.309638	0.885525	0.090846	1.060423	0.327382	0.000000
S'_(n-7)	0.226011	0.747307	0.048402	0.538309	0.479982	0.000000
S'_(n-8)	0.349867	0.786525	0.115986	1.394806	0.264322	0.000000
S'_(n-9)	0.419847	0.999613	0.167025	2.139924	0.174217	0.000000
S'_(n-10)	0.272441	0.939625	0.070331	0.801748	0.391615	0.000000

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.002833
R squared = 0.415894 r = 0.644899

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.084125			
B1	-0.000107	0.000278	-0.386787	0.707017
B2	-0.000894	0.000358	-2.494425	0.031749

Variables not in model:

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	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.612519	0.469158	0.219145	5.404146	0.045138	0.340454
(S'_(n-1))^2	0.647677	0.041318	0.245024	6.503477	0.031185	0.359996
(S'_(n-2))^2	0.068213	0.807594	0.002718	0.042073	0.842045	0.000000
(S'_(n-3))^2	0.177193	0.943477	0.018339	0.291735	0.602218	0.000000
(S'_(n-4))^2	0.077876	0.703914	0.003542	0.054915	0.819966	0.000000
(S'_(n-5))^2	0.451876	0.663284	0.119270	2.309261	0.162925	0.000000
(S'_(n-6))^2	0.538928	0.894663	0.169650	3.683973	0.087145	0.299550
(S'_(n-7))^2	0.255345	0.898498	0.038084	0.627740	0.448565	0.000000
(S'_(n-8))^2	0.221600	0.645082	0.028683	0.464784	0.512557	0.000000
(S'_(n-9))^2	0.180663	0.648115	0.019065	0.303662	0.595009	0.000000
(S'_(n-10))^2	0.238715	0.871011	0.032285	0.543854	0.479624	0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum(w_i, (S'_(i-n))^2)
Standard error of regression = 0.002115
R squared = 0.707074 r = 0.840877

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.083240			
B1	-0.000079	0.000208	-0.378763	0.713644
B2	-0.000315	0.000330	-0.955030	0.364509
B3	-0.000200	0.000067	-2.991046	0.015175

OVERALL REGRESSION FOR P1:
REGRESSION EQUATION = 1/P1 = b0 + b1 (ph1) + b2 SUM(v S') + b3 SUM (w S'^2)
R squared = 0.614618, r = 0.783976, p = 0.000000.

RESULTS OF REGRESSION FOR VARIABLE P2:
DIVISION #1, BETWEEN 0.00 AND 35.00 (n = 28).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.001354
R squared = 0.263806 r = 0.513621

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.011380			
B1	-0.000090	0.000029	-3.052342	0.005181

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.713834	0.900589	0.375134	25.974522	0.000029	0.224804
S'_(n-1)	0.369359	0.631771	0.100436	3.949471	0.057946	0.116321
S'_(n-2)	0.421677	0.579177	0.130903	5.406640	0.028471	0.132797
S'_(n-3)	0.037151	0.719355	0.001016	0.034553	0.854035	0.000000
S'_(n-4)	0.350938	0.814663	0.090668	3.511381	0.072683	0.110519
S'_(n-5)	0.106170	0.468364	0.008298	0.285016	0.598148	0.000000
S'_(n-6)	0.375399	0.813056	0.103747	4.101038	0.053660	0.118222
S'_(n-7)	0.187317	0.842520	0.025831	0.909086	0.349486	0.000000
S'_(n-8)	0.246363	0.619003	0.044683	1.615417	0.215432	0.000000
S'_(n-9)	0.365965	0.629334	0.098599	3.866035	0.060470	0.115252
S'_(n-10)	0.578187	0.976398	0.246109	12.554446	0.001584	0.182086

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.001333
R squared = 0.313965 r = 0.560326

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.011007			
B1	-0.000067	0.000033	-1.996756	0.056849
B2	0.000289	0.000214	1.351983	0.188486

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.659231	0.695031	0.298140	18.446693	0.000249	0.231321
(S'_(n-1))^2	0.252791	0.763426	0.043840	1.638380	0.212783	0.000000
(S'_(n-2))^2	0.511575	0.774538	0.179541	8.507485	0.007556	0.179509
(S'_(n-3))^2	0.014864	0.683131	0.000152	0.005304	0.942547	0.000000
(S'_(n-4))^2	0.163449	0.854386	0.018328	0.658776	0.424970	0.000000

(S'_(n-5))^2	0.590651	0.959424	0.239336	12.858927	0.001489	0.207257
(S'_(n-6))^2	0.139858	0.654375	0.013419	0.478812	0.495602	0.000000
(S'_(n-7))^2	0.095301	0.635459	0.006231	0.219972	0.643294	0.000000

(S'_(n-8))^2	0.401634	0.849455	0.110664	4.616041	0.041975	0.140931
(S'_(n-9))^2	0.225726	0.732019	0.034955	1.288502	0.267534	0.000000
(S'_(n-10))^2	0.686762	0.910313	0.323563	21.423771	0.000107	0.240982

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum(w_i, (S'_(i-n)]^2)
Standard error of regression = 0.001331
R squared = 0.343306 r = 0.585923

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.011656			
B1	-0.000068	0.000033	-2.048460	0.051604
B2	0.000270	0.000214	1.262223	0.218997
B3	-0.000030	0.000029	-1.035527	0.310745

RESULTS OF REGRESSION FOR VARIABLE P2:
DIVISION #2, BETWEEN 35.00 AND 60.00 (n = 24).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.003062
R squared = 0.561949 r = 0.749633

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	-0.008639			
B1	0.000491	0.000093	5.312483	0.000025

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.715570	0.522615	0.224300	22.036315	0.000124	0.343853
S'_(n-1)	0.523543	0.641222	0.120069	7.929513	0.010353	0.251578
S'_(n-2)	0.141658	0.747123	0.008790	0.430038	0.519091	0.000000
S'_(n-3)	0.291481	0.625557	0.037217	1.949840	0.177190	0.000000
S'_(n-4)	0.325455	0.587832	0.046399	2.487853	0.129674	0.000000
S'_(n-5)	0.180030	0.794295	0.014198	0.703426	0.411080	0.000000
S'_(n-6)	0.284805	0.801677	0.035532	1.853762	0.187777	0.000000
S'_(n-7)	0.476136	0.618091	0.099309	6.156535	0.021637	0.228797
S'_(n-8)	0.212479	0.972827	0.019777	0.992924	0.330373	0.000000
S'_(n-9)	0.302911	0.866017	0.040193	2.121522	0.160032	0.000000
S'_(n-10)	0.365788	0.698574	0.058611	3.243839	0.086072	0.175772

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.002481
R squared = 0.725521 r = 0.851775

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.003077			
B1	0.000266	0.000098	2.707742	0.013182

B2	0.001002	0.000283	3.537600	0.001951

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.157364	0.710003	0.006797	0.507843	0.484306	0.000000
(S'_(n-1))^2	0.014643	0.305861	0.000059	0.004289	0.948432	0.000000
(S'_(n-2))^2	0.233219	0.825705	0.014929	1.150347	0.296238	0.000000
(S'_(n-3))^2	0.292778	0.816663	0.023528	1.875114	0.186072	0.000000
(S'_(n-4))^2	0.149700	0.849227	0.006151	0.458478	0.506094	0.000000
(S'_(n-5))^2	0.067376	0.871106	0.001246	0.091204	0.765770	0.000000
(S'_(n-6))^2	0.069559	0.697688	0.001328	0.097240	0.758394	0.000000
(S'_(n-7))^2	0.140937	0.905456	0.005452	0.405317	0.531576	0.000000
(S'_(n-8))^2	0.358616	0.754946	0.035300	2.951722	0.101230	1.000000
(S'_(n-9))^2	0.300463	0.939837	0.024780	1.984746	0.174249	0.000000
(S'_(n-10))^2	0.096805	0.976169	0.002572	0.189195	0.668244	0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum(w_i, (S'_(i-n)]^2)
Standard error of regression = 0.002373
R squared = 0.760820 r = 0.872250

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.004730			
B1	0.000209	0.000100	2.093859	0.049218
B2	0.001267	0.000312	4.063964	0.000606
B3	0.000047	0.000026	1.718058	0.101230

RESULTS OF REGRESSION FOR VARIABLE P2:
DIVISION #3, BETWEEN 60.00 AND 100.00 (n = 38).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.002124
R squared = 0.596532 r = 0.772355

my3

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.033276			
B1	-0.000203	0.000028	-7.295650	0.000000

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.771918	0.431213	0.240409	51.603245	0.000000	0.401157
S'_(n-1)	0.546235	0.967957	0.120384	14.884010	0.000470	0.283872
S'_(n-2)	0.028353	0.449686	0.000324	0.028160	0.867700	0.000000
S'_(n-3)	0.316956	0.456796	0.040533	3.908815	0.055953	0.164718
S'_(n-4)	0.041974	0.994219	0.000711	0.061773	0.805168	0.000000
S'_(n-5)	0.241245	0.561212	0.023481	2.162838	0.150317	0.000000
S'_(n-6)	0.265354	0.485965	0.028409	2.651110	0.112447	0.000000
S'_(n-7)	0.149266	0.657426	0.008989	0.797583	0.377917	0.000000
S'_(n-8)	0.094640	0.867568	0.003614	0.316317	0.577414	0.000000
S'_(n-9)	0.289120	0.419288	0.033726	3.192537	0.082640	0.150253
S'_(n-10)	0.160937	0.751798	0.010450	0.930624	0.341319	0.000000

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.001891
R squared = 0.689150 r = 0.830150

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.032026			
B1	-0.000201	0.000025	-8.108631	0.000000
B2	0.000656	0.000203	3.229265	0.002699

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.417470	0.459941	0.054175	7.176230	0.011300	1.000000
(S'_(n-1))^2	0.208410	0.238760	0.013502	1.543839	0.222549	0.000000
(S'_(n-2))^2	0.040464	0.771266	0.000509	0.055760	0.814745	0.000000
(S'_(n-3))^2	0.139419	0.827155	0.006042	0.673982	0.417386	0.000000
(S'_(n-4))^2	0.043195	0.989857	0.000580	0.063556	0.802480	0.000000
(S'_(n-5))^2	0.187944	0.835550	0.010980	1.244960	0.272341	0.000000
(S'_(n-6))^2	0.037370	0.990279	0.000434	0.047549	0.828688	0.000000
(S'_(n-7))^2	0.131273	0.852263	0.005357	0.596179	0.445374	0.000000
(S'_(n-8))^2	0.100495	0.942697	0.003139	0.346878	0.559779	0.000000
(S'_(n-9))^2	0.145231	0.931880	0.006557	0.732584	0.398039	0.000000
(S'_(n-10))^2	0.028134	0.885935	0.000246	0.026932	0.870615	0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum[w_i, [S'_(i-n)]^2)
Standard error of regression = 0.001743
R squared = 0.743325 r = 0.862163

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.027794			
B1	-0.000153	0.000029	-5.218913	0.000009
B2	0.000297	0.000230	1.289153	0.206047
B3	0.000060	0.000021	2.678849	0.011300

OVERALL REGRESSION FOR P2:
REGRESSION EQUATION = 1/P2 = b0 + b1 [phi) + b2 SUM(v S') + b3 SUM (w S'^2)
R squared = 0.859927, r = 0.927322, p = 0.000000.

Results of detrending for pp :
Division #1, between 0.00 and 30.00 (n = 26).
Detrending equation: PP = b0 + b1 (PHI)
Standard error of regression = 2.288599
R squared = 0.567345 r = 0.753223

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	2.205739	1.115370	1.977585	0.059569
B1	-0.327325	0.058347	-5.609945	0.000009

Results of detrending for pp :
Division #2, between 30.00 and 65.00 (n = 37).

Detrending equation: PP = b0 + b1 (PHI)
Standard error of regression = 2.251732
R squared = 0.709524 r = 0.842333

	COEF	STD ERROR	T-VALUE	P-LEVEL

B0	-15.915442	1.794094	-8.871017	0.000000
B1	0.337968	0.036552	9.246187	0.000000

Results of detrending for pp :
Division #3, between 65.00 and 100.00 (n = 35).
Detrending equation: PP = b0 + b1 (PHI)
Standard error of regression = 1.211902
R squared = 0.482638 r = 0.694722

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	10.940902	1.613416	6.781202	0.000000
B1	-0.106725	0.019235	-5.548434	0.000004

Overall detrending for pp:
R squared = 0.738924, r = 0.859607, p = 0.000000.

Results of detrending for int :
Division #1, between 0.00 and 42.00 (n = 34).
Detrending equation: INT = b0 + b1 (PHI)
Standard error of regression = 0.032896
R squared = 0.694250 r = 0.833217

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.083285	0.012431	6.699998	0.000000
B1	-0.004319	0.000478	-9.041197	0.000000

Results of detrending for int :
Division #2, between 42.00 and 90.00 (n = 45).
Detrending equation: INT = b0 + b1 (PHI)
Standard error of regression = 0.043333
R squared = 0.563090 r = 0.750393

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	-0.233995	0.030713	-7.618842	0.000000
B1	0.003581	0.000465	7.699661	0.000000

Results of detrending for int :
Division #3, between 90.00 and 100.00 (n = 11).
Detrending equation: INT = b0 + b1 (PHI)
Standard error of regression = 0.033538
R squared = 0.135236 r = 0.367745

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.586822	0.412038	1.424193	0.184839
B1	-0.005385	0.004306	-1.250541	0.239571

Overall detrending for int:
R squared = 0.524465, r = 0.724200, p = 0.000000.

Results of detrending for p1 :
Division #1, between 0.00 and 30.00 (n = 23).
Detrending equation: P1 = b0 + b1 (PHI)
Standard error of regression = 0.753565
R squared = 0.006741 r = 0.082103

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	-0.142225	0.367257	-0.387263	0.701974
B1	-0.007754	0.019212	-0.403584	0.690092

Results of detrending for p1 :
Division #2, between 30.00 and 60.00 (n = 29).
Detrending equation: P1 = b0 + b1 (PHI)
Standard error of regression = 0.627464
R squared = 0.129117 r = 0.359329

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	-1.276822	0.601763	-2.121802	0.042521
B1	0.027082	0.013061	2.073532	0.047110

Results of detrending for p1 :
Division #3, between 60.00 and 85.00 (n = 25).
Detrending equation: P1 = b0 + b1 (PHI)
Standard error of regression = 0.757342
R squared = 0.269741 r = 0.519366

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	4.675657	1.394034	3.354047	0.002541
B1	-0.058036	0.019098	-3.038822	0.005499

Results of detrending for p1 :
Division #4, between 85.00 and 100.00 (n = 13).
Detrending equation: P1 = b0 + b1 (PHI)

my3

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Standard error of regression = 0.736711
R squared = 0.043073  r = 0.207541

                COEF        STD ERROR     T-VALUE     P-LEVEL
B0          4.157363         5.967816    0.696630    0.499307
B1         -0.046283         0.062974   -0.734945    0.476491


Overall detrending for p1:
R squared = 0.254745, r = 0.504722, p = 0.000000.

Results of detrending for p2 :
Division #1, between 0.00 and 35.00 (n = 28).
Detrending equation: P2 = b0 + b1 (PHI)
Standard error of regression = 15.751300
R squared = 0.233751  r = 0.483478
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                COEF        STD ERROR     T-VALUE     P-LEVEL
B0          9.399692         6.988830    1.344959    0.189063
B1          0.961253         0.323181    2.974345    0.005862


Results of detrending for p2 :
Division #2, between 35.00 and 60.00 (n = 24).
Detrending equation: P2 = b0 + b1 (PHI)
Standard error of regression = 17.241271
R squared = 0.548809  r = 0.740816

                COEF        STD ERROR     T-VALUE     P-LEVEL
B0        124.749542        24.144005    5.166895    0.000027
B1         -2.697415         0.499243   -5.403010    0.000015


Results of detrending for p2 :
Division #3, between 60.00 and 100.00 (n = 38).
Detrending equation: P2 = b0 + b1 (PHI)
Standard error of regression = 7.986318
R squared = 0.617097  r = 0.785555

                COEF        STD ERROR     T-VALUE     P-LEVEL
B0        -82.578386         8.210427  -10.057746    0.000000
B1          0.802744         0.101254    7.928022    0.000000


Overall detrending for p2:
R squared = 0.762789, r = 0.873378, p = 0.000000.

Results of linear model for pp :
Linear model equation: PP = b0 + b1 (I_n-1) + b2 (D_n)
Standard error of linear model = 1.985426
R squared = 0.028321  r = 0.168288

                COEF        STD ERROR     T-VALUE           P
B0         35.610651         7.166722    4.968890    0.000003
B1          4.356011         4.408906    0.988003    0.325635
B2          0.171668         0.115542    1.485765    0.140618

Overall results of linear modelling of pp
   after retrending: R-squared = 0.746287, r = 0.863879.


Results of linear model for int :
Linear model equation: INT = b0 + b1 (S_n) + ... + b(1+m) (S_n-m)
Standard error of linear model = 0.032015
R squared = 0.298074  r = 0.545962

                COEF        STD ERROR     T-VALUE           P
B0          0.070533         0.276558    0.255037    0.799270
B1         -0.000088         0.001861   -0.047245    0.962422
B2          0.005656         0.002452    2.306580    0.023348
B3          0.001320         0.002470    0.534308    0.594432
B4          0.000968         0.002468    0.392252    0.695789
B5         -0.003143         0.002458   -1.278753    0.204236
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B6          0.000407         0.002487    0.163814    0.870241
B7          0.000632         0.002405    0.262936    0.793195
B8          0.002289         0.002402    0.952944    0.343143
B9         -0.003959         0.002388   -1.657972    0.100767
B10         0.000650         0.002270    0.286352    0.775260
B11         0.002405         0.001774    1.355594    0.178583
```

my3

Overall results of linear modelling of int
after retrending: R-squared = 0.788096, r = 0.887748.

Results of linear model for p1 :
Linear model equation: P1 = b0 + b1 (S_n) + ... + b(1+m) (S_n-m)
Standard error of linear model = 0.670474
R squared = 0.123674 r = 0.351674

	COEF	STD ERROR	T-VALUE	P
B0	10.313813	5.791810	1.780758	0.078289
B1	0.019172	0.038966	0.492029	0.623884
B2	0.012766	0.051349	0.248619	0.804216
B3	0.026943	0.051738	0.520755	0.603802
B4	-0.058927	0.051679	-1.140241	0.257178
B5	-0.040481	0.051470	-0.786492	0.433623
B6	0.076616	0.052087	1.470926	0.144761
B7	-0.069560	0.050357	-1.381325	0.170561
B8	0.004908	0.050311	0.097556	0.922499
B9	0.002833	0.050012	0.056646	0.954952
B10	0.040593	0.047533	0.854002	0.395347
B11	0.021922	0.037149	0.590107	0.556581

Overall results of linear modelling of p1
after retrending: R-squared = 0.353036, r = 0.594168.

Results of linear model for p2 :
Linear model equation: P2 = b0 + b1 (S_n) + ... + b(1+m) (S_n-m)
Standard error of linear model = 10.366765
R squared = 0.394638 r = 0.628202

	COEF	STD ERROR	T-VALUE	P
B0	344.079595	89.552098	3.842228	0.000225
B1	-2.884597	0.602482	-4.787858	0.000007
B2	-0.342503	0.793952	-0.431390	0.667205
B3	0.300256	0.799969	0.375335	0.708285
B4	0.446050	0.799054	0.558223	0.578063
B5	-0.920005	0.795823	-1.156043	0.250690
B6	0.411532	0.805364	0.510989	0.610596
B7	0.189044	0.778620	0.242794	0.808711
B8	0.015545	0.777894	0.019983	0.984101
B9	0.822596	0.773271	1.063787	0.290240
B10	-0.522064	0.734948	-0.710342	0.479309
B11	-0.223379	0.574387	-0.388900	0.698259

Overall results of linear modelling of p2
after retrending: R-squared = 0.858832, r = 0.926732.

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Results of linear model for diast :
Linear model equation: D_n+1 = b0 + b1(D) + b2(D') + b3(D'') + b4(PP) + b5(INT) + b6(P1) + b7(P2)
Standard error of linear model = 1.458864
R squared = 0.359633 r = 0.599694

	COEF	STD ERROR	T-VALUE	P
B0	24.084784	6.904734	3.488155	0.000751
B1	0.462130	0.091453	5.053171	0.000002
B2	0.020062	0.014101	1.422749	0.158228
B3	-0.000421	0.000765	-0.549653	0.583904
B4	0.151731	0.091132	1.664942	0.099364
B5	-8.114380	3.797177	-2.136951	0.035284
B6	0.205937	0.247341	0.832605	0.407247
B7	-0.004399	0.014449	-0.304436	0.761491

Results of linear model for ddiast :
Linear model equation: D'_n+1 = b0 + b1(D) + b2(D') + b3(D'') + b4(PP) + b5(INT) + b6(P1) + b7(P2)
Standard error of linear model = 21.997518
R squared = 0.114775 r = 0.338784

	COEF	STD ERROR	T-VALUE	P
B0	203.374779	104.113208	1.953400	0.053844
B1	-2.755793	1.378983	-1.998424	0.048655
B2	0.253810	0.212624	1.193703	0.235697
B3	-0.010989	0.011536	-0.952657	0.343287
B4	-1.971186	1.374146	-1.434481	0.154863
B5	51.862711	57.255833	0.905807	0.367430
B6	-2.190539	3.729534	-0.587349	0.558424
B7	-0.022661	0.217876	-0.104010	0.917391

Results of linear model for dddiast :
Linear model equation: D''_n+1 = b0 + b1(D) + b2(D') + b3(D'') + b4(PP) + b5(INT) + b6(P1) + b7(P2)
Standard error of linear model = 417.979213
R squared = 0.079279 r = 0.281566

	COEF	STD ERROR	T-VALUE	P
B0	2488.334266	1978.275769	1.257830	0.211671
B1	-3.365952	26.202337	-0.128460	0.898068
B2	4.597472	4.040112	1.137957	0.258126
B3	-0.137723	0.219190	-0.628326	0.531365

my3

B4	-58.924843	26.110427	-2.256755	0.026417	
B5	1206.285090	1087.929465	1.108790	0.270443	
B6	-13.204140	70.865625	-0.186326	0.852604	
B7	-3.352891	4.139909	-0.809895	0.420113	

Results of windkessel model for diast :
Overall results for diast:
R-squared = 0.841782, r = 0.917487.

NONLINEAR FORECAST RESULTS (In-sample, n = 80):

STEP	PP	INT	P1	P2	DIAST
0	0.880957	0.836451	0.767020	0.907037	1.000000
1	0.562277	0.893122	-0.255579	0.547493	0.400372
2	0.604000	0.454401	-0.312405	0.577784	-0.169410

3	0.562509	0.489291	-0.316951	0.620830	-0.314430
4	0.675784	0.528845	-0.328231	0.629784	-0.265575
5	0.599508	0.443388	-0.355380	0.559262	-0.155243
6	0.629348	0.471917	-0.277990	0.554566	0.404000
7	0.596280	0.521173	-0.277424	0.539039	0.549435
8	0.736486	0.557705	-0.125311	0.393732	0.023644
9	0.765254	0.615906	-0.147176	0.570412	0.101244
10	0.774617	0.644138	-0.104750	0.603050	0.153546

NONLINEAR FORECAST RESULTS (Out-of-sample, n = 72):

STEP	PP	INT	P1	P2	DIAST
0	0.877500	0.887172	0.416322	0.878309	1.000000
1	0.555395	0.891908	-0.222740	0.634790	0.598323
2	0.574382	0.364375	-0.251389	0.601096	-0.133212
3	0.484504	0.428978	-0.277827	0.619012	-0.290392
4	0.497254	0.393589	-0.272612	0.602060	-0.138213
5	0.488267	0.227451	-0.248140	0.639412	-0.142773
6	0.427411	0.203592	-0.246582	0.642431	0.138722
7	0.432038	0.264917	-0.291365	0.611093	0.543841
8	0.529908	0.348337	-0.284802	0.557777	-0.001477
9	0.604965	0.437826	-0.165764	0.709026	-0.029433
10	0.660245	0.536153	-0.108580	0.707493	-0.031643

LINEAR FORECAST RESULTS (In-sample, n = 80):

STEP	PP	INT	P1	P2	DIAST
0	0.874940	0.879714	0.598112	0.882624	1.000000
1	0.877959	0.863619	0.590334	0.871308	0.605942
2	0.876652	0.848428	0.551421	0.864243	0.184793
3	0.869176	0.833279	0.508833	0.853748	-0.048838
4	0.868317	0.819204	0.476564	0.846912	-0.083843
5	0.868785	0.819501	0.532572	0.847109	-0.346005
6	0.869608	0.809444	0.454066	0.850133	-0.363163
7	0.871761	0.795697	0.519339	0.849077	-0.460829
8	0.869265	0.792550	0.544852	0.846749	-0.519518
9	0.870256	0.802906	0.554817	0.862432	-0.105960
10	0.863176	0.826897	0.486491	0.849518	-0.428436

LINEAR FORECAST RESULTS (Out-of-sample, n = 72):

STEP	PP	INT	P1	P2	DIAST
0	0.899378	0.909923	0.403130	0.862719	1.000000
1	0.895029	0.865859	0.422339	0.841783	0.447549
2	0.892296	0.851551	0.438624	0.844374	0.113941
3	0.885207	0.829762	0.407857	0.839858	0.043091
4	0.876670	0.817255	0.387049	0.831392	-0.022189
5	0.873730	0.823732	0.341502	0.821867	-0.289354
6	0.840688	0.814488	0.349067	0.806623	-0.274270
7	0.834669	0.791339	0.329546	0.816906	-0.296624
8	0.821475	0.803938	0.288849	0.812503	-0.140696
9	0.812745	0.797422	0.316916	0.822044	-0.303285
10	0.805140	0.789646	0.324031	0.820522	-0.519243

Error analysis for long forecast into file nl1*.00:
Errors in p1: 6
Errors in p2: 9
Errors in p5: 3
Post inflection adjustment in p5: 12

my3

my2

In-sample data for beats 1 through 150 (n = 150):

BEATNO	TIME	INT	DIAS	DIAS'	DIAS''	SYST	PP	P1	P2	P3	P4	P5	P6	RESP
AVG	1029.373	1.459	70.61	-26.84	-196.27	123.97	53.36	19.59	54.06	973.97	87204.84	58.64	22.05	50.01
STDDEV	63.702	0.064	1.03	15.53	290.96	1.98	2.00	0.59	4.16	47.83	3582.15	1.65	9.50	37.10

Out-of-sample data for beats 151 through 243 (n = 93):

BEATNO	TIME	INT	DIAS	DIAS'	DIAS''	SYST	PP	P1	P2	P3	P4	P5	P6	RESP
AVG	1204.766	1.423	70.47	-20.47	-20.00	126.58	56.11	19.35	59.00	922.33	90849.41	60.86	21.38	55.87
STDDEV	38.164	0.074	1.17	14.64	249.89	1.76	1.68	0.64	3.20	52.77	3463.98	2.16	9.80	29.55

Results of regression for p3 :
Regression equation: P3 = b0 + b1 (P1) + b2 (P1)^2
Standard error of regression = 36.467916
R squared = 0.426532 r = 0.653094

	COEF	STD ERROR	T-VALUE	P
B0	-10706.193081	2309.259474	-4.636202	0.000008
B1	1151.328105	236.951019	4.858929	0.000003
B2	-28.310481	6.075513	-4.659768	0.000007

Results of regression for p4 :
Regression equation: P4 = b0 + b1 (PP)
Standard error of regression = 1768.059213
R squared = 0.758019 r = 0.870643

	COEF	STD ERROR	T-VALUE	P
B0	3930.005456	3870.222862	1.015447	0.311550
B1	1560.656024	72.481478	21.531791	0.000000

Results of regression for p5 :
Regression equation: P5 = b0 + b1 (P2) + b2 (P2)^2 + b3 (P2)^3
Standard error of regression = 1.285043
R squared = 0.409191 r = 0.639681

	COEF	STD ERROR	T-VALUE	P
B0	-125.141607	105.541575	-1.185709	0.237663
B1	9.858911	5.919999	1.665357	0.097986
B2	-0.179739	0.110254	-1.630227	0.105209
B3	0.001115	0.000682	1.634701	0.104266

Results of regression for p6 :
Regression equation: P6 = b0 + b1 (P1)
Standard error of regression = 9.526720
R squared = 0.001129 r = 0.033598

	COEF	STD ERROR	T-VALUE	P
B0	32.661752	25.952269	1.258532	0.210181
B1	-0.541495	1.324059	-0.408966	0.683156

Results of regression for pp :
Division #1, between 0.00 and 15.00 (n = 16).
Regression equation: PP = b0 + b1 (PHI) + b2 (I_n-1) + b3 (D)
Standard error of regression = 1.834311
R squared = 0.131885 r = 0.363159

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	34.139550	49.686005	0.687106	0.505079
B1	-0.211677	0.218273	-0.969784	0.351295
B2	-5.388014	7.200615	-0.748271	0.468709
B3	0.396094	0.713084	0.555467	0.588781

Results of regression for pp :
Division #2, between 15.00 and 57.00 (n = 57).
Regression equation: PP = b0 + b1 (PHI) + b2 (I_n-1) + b3 (D)
Standard error of regression = 1.912023
R squared = 0.217149 r = 0.465993

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	49.630540	23.698504	2.094248	0.041036
B1	0.054197	0.024919	2.174902	0.034121
B2	6.122359	4.513120	1.356569	0.180669
B3	-0.095414	0.300708	-0.317300	0.752263

Results of regression for pp :
Division #3, between 57.00 and 80.00 (n = 32).

my2

Regression equation: PP = b0 + b1 (PHI) + b2 (I_n-1) + b3 (D)
Standard error of regression = 1.735738
R squared = 0.391966 r = 0.626072

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	99.867304	28.716152	3.477740	0.001670
B1	-0.024804	0.048425	-0.512204	0.612525
B2	15.792265	5.427088	2.909897	0.007011
B3	-0.970633	0.375653	-2.583853	0.015281

Results of regression for pp :
Division #4, between 80.00 and 100.00 (n = 38).
Regression equation: PP = b0 + b1 (PHI) + b2 (I_n-1) + b3 (D)
Standard error of regression = 1.366424
R squared = 0.097931 r = 0.312940

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	75.022084	16.778772	4.471250	0.000082
B1	-0.014958	0.037969	-0.393945	0.696082
B2	2.088410	4.386908	0.476055	0.637080
B3	-0.336463	0.215998	-1.557715	0.128562

Overall regression for pp:
R squared = 0.154194, r = 0.392675, p = 0.000001.

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RESULTS OF REGRESSION FOR VARIABLE INT:
DIVISION #1, BETWEEN 0.00 AND 20.00 (n = 21).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.060396
R squared = 0.000050 r = 0.007038

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	1.421524			
B1	-0.000089	0.002908	-0.030678	0.975846

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.411440	0.966591	0.169274	3.668023	0.071493	1.000000
S'_(n-1)	0.027578	0.999222	0.000760	0.013700	0.908119	0.000000
S'_(n-2)	0.071574	0.999913	0.005123	0.092685	0.764282	0.000000
S'_(n-3)	0.031881	0.950596	0.001016	0.018314	0.893853	0.000000
S'_(n-4)	0.177709	0.977159	0.031579	0.586984	0.453519	0.000000
S'_(n-5)	0.037662	0.950003	0.001418	0.025568	0.874741	0.000000
S'_(n-6)	0.345073	0.874102	0.119070	2.433083	0.136208	0.000000
S'_(n-7)	0.358909	0.993485	0.128809	2.661526	0.120174	0.000000
S'_(n-8)	0.196676	0.917313	0.038680	0.724285	0.405922	0.000000
S'_(n-9)	0.004383	0.949884	0.000019	0.000346	0.985370	0.000000
S'_(n-10)	0.219244	0.654642	0.048065	0.908910	0.353032	0.000000

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.056555
R squared = 0.169324 r = 0.411490

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	1.446782			
B1	-0.001059	0.002770	-0.382272	0.706736
B2	0.013204	0.006894	1.915208	0.071493

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.208511	0.599953	0.036115	0.772702	0.391639	0.000000
(S'_(n-1))^2	0.106348	0.999926	0.009395	0.194467	0.664782	0.000000
(S'_(n-2))^2	0.115727	0.986543	0.011125	0.230765	0.637080	0.000000
(S'_(n-3))^2	0.092492	0.999076	0.007106	0.146685	0.706471	0.000000
(S'_(n-4))^2	0.102707	0.989273	0.008763	0.181242	0.675649	0.000000
(S'_(n-5))^2	0.326434	0.932800	0.088516	2.027557	0.172565	1.000000
(S'_(n-6))^2	0.276859	0.765155	0.063672	1.411234	0.251184	0.000000
(S'_(n-7))^2	0.262158	0.969693	0.057090	1.254580	0.278255	0.000000
(S'_(n-8))^2	0.104254	0.919590	0.009029	0.186801	0.671025	0.000000
(S'_(n-9))^2	0.143238	0.972497	0.017043	0.356099	0.558545	0.000000
(S'_(n-10))^2	0.055597	0.685128	0.002568	0.052710	0.821152	0.000000

Final results of regression (step #3).

my2

Variables in: resp, sum[v_i S'_(i-n)], sum(w_i, [S'_(i-n)]^2)
Standard error of regression = 0.055007
R squared = 0.257840 r = 0.507779

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	1.464603			
B1	-0.001259	0.002698	-0.466765	0.646594
B2	0.010823	0.006911	1.566208	0.135724
B3	-0.008422	0.005915	-1.423923	0.172565

RESULTS OF REGRESSION FOR VARIABLE INT:
DIVISION #2, BETWEEN 20.00 AND 50.00 (n = 40).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.058585
R squared = 0.203755 r = 0.451392

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	1.354984			
B1	0.003693	0.001184	3.118333	0.003460

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.624546	0.928859	0.310581	23.661459	0.000021	0.244276
S'_(n-1)	0.404158	0.786749	0.130062	7.223673	0.010718	0.158077
S'_(n-2)	0.177351	0.959985	0.025045	1.201574	0.280091	0.000000
S'_(n-3)	0.009839	0.992458	0.000077	0.003582	0.952595	0.000000
S'_(n-4)	0.363196	0.959190	0.105034	5.622364	0.023051	0.142055
S'_(n-5)	0.356554	0.949301	0.101227	5.388953	0.025878	0.139458
S'_(n-6)	0.120211	0.974496	0.011506	0.542512	0.466038	0.000000
S'_(n-7)	0.098506	0.823383	0.007726	0.362543	0.550770	0.000000
S'_(n-8)	0.200950	0.928318	0.032153	1.556970	0.219949	0.000000
S'_(n-9)	0.371748	0.995960	0.110038	5.933207	0.019794	0.145400
S'_(n-10)	0.436518	0.986131	0.151723	8.709950	0.005465	0.170734

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.054218
R squared = 0.335996 r = 0.579652

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	1.367689			
B1	0.003221	0.001110	2.903207	0.006193
B2	0.020920	0.007706	2.714560	0.010021

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.050780	0.958547	0.001712	0.093068	0.762069	0.000000
(S'_(n-1))^2	0.100910	0.972014	0.006761	0.370355	0.546632	0.000000
(S'_(n-2))^2	0.026261	0.836378	0.000458	0.024844	0.875637	0.000000
(S'_(n-3))^2	0.116547	0.894878	0.009019	0.495728	0.485913	0.000000

(S'_(n-4))^2	0.212729	0.945846	0.030049	1.706354	0.199744	0.496190
(S'_(n-5))^2	0.101237	0.866682	0.006805	0.372781	0.545328	0.000000
(S'_(n-6))^2	0.130464	0.768077	0.011302	0.623362	0.434970	0.000000
(S'_(n-7))^2	0.061123	0.901618	0.002481	0.135002	0.715452	0.000000
(S'_(n-8))^2	0.215996	0.959767	0.030979	1.761752	0.192763	0.503810
(S'_(n-9))^2	0.187329	0.864848	0.023301	1.309261	0.260080	0.000000
(S'_(n-10))^2	0.115649	0.984165	0.008881	0.488016	0.489302	0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum(w_i, [S'_(i-n)]^2)
Standard error of regression = 0.054943
R squared = 0.336540 r = 0.580120

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	1.365388			
B1	0.003219	0.001125	2.862683	0.006960
B2	0.021172	0.007947	2.664170	0.011474
B3	0.000696	0.004055	0.171707	0.864630

RESULTS OF REGRESSION FOR VARIABLE INT:
DIVISION #3, BETWEEN 50.00 AND 100.00 (n = 79).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.054309
R squared = 0.005280 r = 0.072665

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	1.482545			

my2

Regression equation: PP = b0 + b1 (PHI) + b2 (I_n-1) + b3 (D)
Standard error of regression = 1.735738
R squared = 0.391966 r = 0.626072

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	99.867304	28.716152	3.477740	0.001670
B1	-0.024804	0.048425	-0.512204	0.612525
B2	15.792265	5.427088	2.909897	0.007011
B3	-0.970633	0.375653	-2.583853	0.015281

Results of regression for pp :
Division #4, between 80.00 and 100.00 (n = 38).
Regression equation: PP = b0 + b1 (PHI) + b2 (I_n-1) + b3 (D)
Standard error of regression = 1.366424
R squared = 0.097931 r = 0.312940

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	75.022084	16.778772	4.471250	0.000082
B1	-0.014958	0.037969	-0.393945	0.696082
B2	2.088410	4.386908	0.476055	0.637080
B3	-0.336463	0.215998	-1.557715	0.128562

Overall regression for pp:
R squared = 0.154194, r = 0.392675, p = 0.000001.

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RESULTS OF REGRESSION FOR VARIABLE INT:
DIVISION #1, BETWEEN 0.00 AND 20.00 (n = 21).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.060396
R squared = 0.000050 r = 0.007038

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	1.421524			
B1	-0.000089	0.002908	-0.030678	0.975846

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.411440	0.966591	0.169274	3.668023	0.071493	1.000000
S'_(n-1)	0.027578	0.999222	0.000760	0.013700	0.908119	0.000000
S'_(n-2)	0.071574	0.999913	0.005123	0.092685	0.764282	0.000000
S'_(n-3)	0.031881	0.950596	0.001016	0.018314	0.893853	0.000000
S'_(n-4)	0.177709	0.977159	0.031579	0.586984	0.453519	0.000000
S'_(n-5)	0.037662	0.950003	0.001418	0.025568	0.874741	0.000000
S'_(n-6)	0.345073	0.874102	0.119070	2.433083	0.136208	0.000000
S'_(n-7)	0.358909	0.993485	0.128809	2.661526	0.120174	0.000000
S'_(n-8)	0.196676	0.917313	0.038680	0.724285	0.405922	0.000000
S'_(n-9)	0.004383	0.949884	0.000019	0.000346	0.985370	0.000000
S'_(n-10)	0.219244	0.654642	0.048065	0.908910	0.353032	0.000000

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.056555
R squared = 0.169324 r = 0.411490

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	1.446782			
B1	-0.001059	0.002770	-0.382272	0.706736
B2	0.013204	0.006894	1.915208	0.071493

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.208511	0.599953	0.036115	0.772702	0.391639	0.000000
(S'_(n-1))^2	0.106348	0.999926	0.009395	0.194467	0.664782	0.000000
(S'_(n-2))^2	0.115727	0.986543	0.011125	0.230765	0.637080	0.000000
(S'_(n-3))^2	0.092492	0.999076	0.007106	0.146685	0.706471	0.000000
(S'_(n-4))^2	0.102707	0.989273	0.008763	0.181242	0.675649	0.000000
(S'_(n-5))^2	0.326434	0.932800	0.088516	2.027557	0.172565	1.000000
(S'_(n-6))^2	0.276859	0.765155	0.063672	1.411234	0.251184	0.000000
(S'_(n-7))^2	0.262158	0.969693	0.057090	1.254580	0.278255	0.000000
(S'_(n-8))^2	0.104254	0.919590	0.009029	0.186801	0.671025	0.000000
(S'_(n-9))^2	0.143238	0.972497	0.017043	0.356099	0.558545	0.000000
(S'_(n-10))^2	0.055597	0.685128	0.002568	0.052710	0.821152	0.000000

Final results of regression (step #3).

my2

S'_(n-6)	0.089136	0.890269	0.007583	0.248273	0.621811	0.000000
S'_(n-7)	0.075646	0.948308	0.005462	0.178415	0.675655	0.000000
S'_(n-8)	0.077142	0.998797	0.005680	0.185584	0.669598	0.000000
S'_(n-9)	0.264250	0.990790	0.066649	2.327171	0.137271	0.000000
S'_(n-10)	0.313657	0.824754	0.093901	3.382578	0.075485	1.000000

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.001729
R squared = 0.139430 r = 0.373404

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.052049			
B1	-0.000016	0.000041	-0.393110	0.696928
B2	-0.000295	0.000160	-1.839179	0.075485

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.335780	0.936107	0.097028	3.812279	0.060265	0.508336
(S'_(n-1))^2	0.023615	0.908588	0.000480	0.016739	0.897921	0.000000
(S'_(n-2))^2	0.006137	0.918550	0.000032	0.001130	0.973408	0.000000
(S'_(n-3))^2	0.024473	0.998086	0.000515	0.017979	0.894230	0.000000
(S'_(n-4))^2	0.085034	0.952588	0.006223	0.218506	0.643559	0.000000
(S'_(n-5))^2	0.132061	0.891687	0.015009	0.532494	0.471220	0.000000
(S'_(n-6))^2	0.153562	0.879049	0.020293	0.724519	0.401409	0.000000
(S'_(n-7))^2	0.167871	0.822732	0.024251	0.869938	0.358419	0.000000
(S'_(n-8))^2	0.156528	0.834201	0.021085	0.753492	0.392264	0.000000
(S'_(n-9))^2	0.324768	0.988740	0.090768	3.537323	0.069741	0.491664
(S'_(n-10))^2	0.109896	0.745305	0.010393	0.366741	0.549341	0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum{w_i, (S'_(i-n))^2}
Standard error of regression = 0.001603
R squared = 0.284390 r = 0.533282

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.050951			
B1	-0.000014	0.000038	-0.373213	0.711614
B2	-0.000248	0.000150	-1.654112	0.108532
B3	0.000283	0.000115	2.465166	0.019638

RESULTS OF REGRESSION FOR VARIABLE P1:
DIVISION #2, BETWEEN 30.00 AND 100.00 (n = 106).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.001383
R squared = 0.002118 r = 0.046017

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.050987			
B1	-0.000003	0.000006	-0.469785	0.639492

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.121791	0.935596	0.014802	1.550802	0.215843	0.000000
S'_(n-1)	0.254535	0.944621	0.064651	7.135493	0.008785	0.158083
S'_(n-2)	0.266675	0.996175	0.070965	7.885726	0.005962	0.165623
S'_(n-3)	0.361875	0.862564	0.130676	15.520662	0.000149	0.224748
S'_(n-4)	0.229009	0.828463	0.052334	5.700811	0.018780	0.142230
S'_(n-5)	0.228253	0.926477	0.051989	5.661183	0.019186	0.141760
S'_(n-6)	0.269786	0.974293	0.072631	8.085314	0.005383	0.167555
S'_(n-7)	0.102461	0.989438	0.010476	1.092800	0.298299	0.000000
S'_(n-8)	0.048159	0.951083	0.002314	0.239443	0.625649	0.000000
S'_(n-9)	0.042254	0.871058	0.001782	0.184224	0.668665	0.000000
S'_(n-10)	0.089173	0.854147	0.007935	0.825602	0.365669	0.000000

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.001271
R squared = 0.165165 r = 0.406406

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.051460			
B1	-0.000010	0.000006	-1.701699	0.091829
B2	0.000457	0.000102	4.485139	0.000019

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.381806	0.909043	0.121698	17.406560	0.000064	0.699866
(S'_(n-1))^2	0.163735	0.947164	0.022381	2.809868	0.096749	0.300134
(S'_(n-2))^2	0.125251	0.967864	0.013097	1.625648	0.205203	0.000000

my2

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B1         -0.000262        0.000409  -0.639323    0.524511

Variables not in model:

           PARTIAL CORR     TOLERANCE          R-SQ       F-VALUE       P-LEVEL   NEW WEIGHT
S'_(n-0 )      0.465766      0.970867      0.215792     21.054857      0.000017     0.416678
S'_(n-1 )      0.264738      0.865641      0.069716      5.728017      0.019165     0.236837
S'_(n-2 )      0.107903      0.883770      0.011581      0.895289      0.347047     0.000000
S'_(n-3 )      0.195103      0.991221      0.037864      3.007442      0.086938     0.174541
S'_(n-4 )      0.138552      0.820239      0.019095      1.487496      0.226377     0.000000
S'_(n-5 )      0.192200      0.874896      0.036746      2.915198      0.091831     0.171944
S'_(n-6 )      0.183484      0.969836      0.033489      2.647799      0.107833     0.000000
S'_(n-7 )      0.026077      0.987283      0.000676      0.051715      0.820717     0.000000
S'_(n-8 )      0.020672      0.993536      0.000425      0.032491      0.857433     0.000000
S'_(n-9 )      0.048465      0.966164      0.002336      0.178933      0.673487     0.000000
S'_(n-10)      0.174384      0.860294      0.030249      2.383637      0.126766     0.000000

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.053016
R squared = 0.064395  r = 0.253762

               COEF        STD ERROR     T-VALUE     P-LEVEL
B0         1.474338



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B1         -0.000172        0.000402  -0.428348    0.669609
B2          0.010381        0.004737   2.191338    0.031491

Variables not in model:

              PARTIAL CORR     TOLERANCE          R-SQ       F-VALUE       P-LEVEL   NEW WEIGHT
(S'_(n-0 ))^2      0.160241      0.880584      0.024024      1.976545      0.163884     0.000000
(S'_(n-1 ))^2      0.029577      0.940659      0.000818      0.065666      0.798456     0.000000
(S'_(n-2 ))^2      0.108845      0.940032      0.011084      0.899198      0.346042     0.000000
(S'_(n-3 ))^2      0.286659      0.982750      0.076882      6.714781      0.011486     1.000000
(S'_(n-4 ))^2      0.131820      0.965878      0.016257      1.326278      0.253126     0.000000
(S'_(n-5 ))^2      0.023513      0.998782      0.000517      0.041486      0.839154     0.000000
(S'_(n-6 ))^2      0.093475      0.985034      0.008175      0.661088      0.418750     0.000000
(S'_(n-7 ))^2      0.141941      0.910505      0.018850      1.542113      0.218173     0.000000
(S'_(n-8 ))^2      0.072189      0.831756      0.004876      0.392895      0.532685     0.000000
(S'_(n-9 ))^2      0.059708      0.877655      0.003335      0.268337      0.605975     0.000000
(S'_(n-10))^2      0.126781      0.990663      0.015038      1.225204      0.271879     0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum[w_i, [S'_(i-n)]^2]
Standard error of regression = 0.051128
R squared = 0.141277  r = 0.375868

               COEF        STD ERROR     T-VALUE     P-LEVEL
B0         1.489390
B1        -0.000155        0.000387  -0.399845    0.690407
B2         0.011948        0.004608   2.592780    0.011440
B3        -0.005047        0.001948  -2.591290    0.011486

OVERALL REGRESSION FOR INT:
REGRESSION EQUATION = I_n = b0 + b1 (phi) + b2 SUM(v S') + b3 SUM (w S'^2)
R squared = 0.318550,  r = 0.564402,  p = 0.000000.

RESULTS OF REGRESSION FOR VARIABLE P1:
DIVISION #1, BETWEEN 0.00 AND 30.00 (n = 34).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.001792
R squared = 0.045529  r = 0.213375

               COEF        STD ERROR     T-VALUE     P-LEVEL
B0         0.052753
B1        -0.000047        0.000038  -1.235482    0.225645

Variables not in model:

           PARTIAL CORR     TOLERANCE          R-SQ       F-VALUE       P-LEVEL   NEW WEIGHT
S'_(n-0 )      0.204736      0.907585      0.040009      1.356276      0.253068     0.000000
S'_(n-1 )      0.219114      0.999586      0.045825      1.563401      0.220524     0.000000
S'_(n-2 )      0.064529      0.992520      0.003974      0.129624      0.721264     0.000000
S'_(n-3 )      0.005981      0.965202      0.000034      0.001109      0.973650     0.000000
S'_(n-4 )      0.162573      0.997849      0.025227      0.841571      0.366030     0.000000
S'_(n-5 )      0.014308      0.997224      0.000195      0.006348      0.937010     0.000000



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my2

Variables in: resp, sum[v_i S'_(i-n)], sum{w_i, [S'_(i-n)]^2}
Standard error of regression = 0.001397
R squared = 0.341606 r = 0.584470

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.021094			
B1	-0.000035	0.000030	-1.160239	0.255102
B2	-0.000360	0.000142	-2.541123	0.016458
B3	-0.000395	0.000119	-3.316168	0.002396

RESULTS OF REGRESSION FOR VARIABLE P2:
DIVISION #2, BETWEEN 30.00 AND 60.00 (n = 41).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.001340
R squared = 0.000018 r = 0.004273

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.018667			
B1	-0.000001	0.000022	-0.026685	0.978847

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.223168	0.976176	0.049803	1.991751	0.166294	0.000000
S'_(n-1)	0.222929	0.955692	0.049696	1.987262	0.166760	0.000000
S'_(n-2)	0.182460	0.743042	0.033291	1.308655	0.259794	0.000000
S'_(n-3)	0.341957	0.910074	0.116933	5.031925	0.030794	1.000000
S'_(n-4)	0.223291	0.981989	0.049858	1.994052	0.166055	0.000000
S'_(n-5)	0.194765	0.959928	0.037933	1.498303	0.228468	0.000000
S'_(n-6)	0.060041	0.991962	0.003605	0.137484	0.712854	0.000000
S'_(n-7)	0.163637	0.999774	0.026777	1.045527	0.313005	0.000000
S'_(n-8)	0.176356	0.885169	0.031101	1.219787	0.276347	0.000000
S'_(n-9)	0.113927	0.940043	0.012979	0.499702	0.483944	0.000000
S'_(n-10)	0.181724	0.992717	0.033023	1.297754	0.261755	0.000000

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.001275
R squared = 0.116951 r = 0.341981

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.017816			
B1	0.000014	0.000022	0.645942	0.522199
B2	-0.000266	0.000118	-2.243195	0.030794

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.260868	0.936784	0.060093	2.701790	0.108708	0.000000
(S'_(n-1))^2	0.063598	0.958647	0.003572	0.150261	0.700508	0.000000

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(S'_(n-2))^2	0.027471	0.968598	0.000666	0.027944	0.868150	0.000000
(S'_(n-3))^2	0.002694	0.684100	0.000006	0.000269	0.987012	0.000000
(S'_(n-4))^2	0.221696	0.976863	0.043401	1.912518	0.174973	0.000000
(S'_(n-5))^2	0.152829	0.986497	0.020625	0.884861	0.352975	0.000000
(S'_(n-6))^2	0.172028	0.876845	0.026133	1.128362	0.295009	0.000000
(S'_(n-7))^2	0.054115	0.967374	0.002586	0.108671	0.743521	0.000000
(S'_(n-8))^2	0.327920	0.831763	0.094956	4.458046	0.041553	1.000000
(S'_(n-9))^2	0.242132	0.827129	0.051771	2.304337	0.137512	0.000000
(S'_(n-10))^2	0.023684	0.962020	0.000495	0.020766	0.886200	0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum{w_i, [S'_(i-n)]^2}
Standard error of regression = 0.001221
R squared = 0.211906 r = 0.460333

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.019108			
B1	-0.000005	0.000023	-0.198464	0.843769
B2	-0.000271	0.000113	-2.391149	0.021995
B3	-0.000152	0.000072	-2.111409	0.041553

RESULTS OF REGRESSION FOR VARIABLE P2:
DIVISION #3, BETWEEN 60.00 AND 100.00 (n = 65).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.001398
R squared = 0.000016 r = 0.003938

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.018643			
B1	-0.000000	0.000014	-0.031259	0.975162

(S'_(n-3))^2	0.037120	0.994974	0.001150	0.140742	0.708324	0.000000
(S'_(n-4))^2	0.009939	0.995692	0.000082	0.010077	0.920236	0.000000
(S'_(n-5))^2	0.046675	0.998675	0.001819	0.222694	0.638003	0.000000
(S'_(n-6))^2	0.052037	0.963189	0.002261	0.276953	0.599848	0.000000
(S'_(n-7))^2	0.133604	0.863653	0.014902	1.853800	0.176342	0.000000
(S'_(n-8))^2	0.039933	0.939728	0.001331	0.162915	0.687331	0.000000
(S'_(n-9))^2	0.082291	0.980858	0.005653	0.695441	0.406268	0.000000
(S'_(n-10))^2	0.005542	0.977913	0.000026	0.003133	0.955472	0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum(w_i, (S'_(i-n))^2)
Standard error of regression = 0.001193
R squared = 0.272334 r = 0.521856

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.050476			
B1	-0.000004	0.000006	-0.656768	0.512809
B2	0.000483	0.000096	5.037254	0.000002
B3	0.000171	0.000044	3.875852	0.000188

OVERALL REGRESSION FOR P1:
REGRESSION EQUATION = 1/P1 = b0 + b1 (phi) + b2 SUM(v S') + b3 SUM (w S'^2)

R squared = 0.343042, r = 0.585698, p = 0.000000.

RESULTS OF REGRESSION FOR VARIABLE P2:
DIVISION #1, BETWEEN 0.00 AND 30.00 (n = 34).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.001625
R squared = 0.050211 r = 0.224079

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.019864			
B1	-0.000045	0.000035	-1.300656	0.202665

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.096196	0.907585	0.008789	0.289544	0.594356	0.000000
S'_(n-1)	0.039587	0.999586	0.001488	0.048658	0.826861	0.000000
S'_(n-2)	0.103454	0.992520	0.010165	0.335376	0.566695	0.000000
S'_(n-3)	0.006630	0.965202	0.000042	0.001363	0.970787	0.000000
S'_(n-4)	0.123327	0.997849	0.014446	0.478780	0.494126	0.000000
S'_(n-5)	0.064068	0.997224	0.003899	0.127771	0.723177	0.000000
S'_(n-6)	0.207130	0.890269	0.040749	1.389608	0.247440	0.000000
S'_(n-7)	0.201056	0.948308	0.038394	1.305915	0.261885	0.000000
S'_(n-8)	0.116580	0.998797	0.012908	0.427122	0.518223	0.000000
S'_(n-9)	0.229555	0.990790	0.050049	1.724423	0.198762	1.000000
S'_(n-10)	0.036038	0.824754	0.001234	0.040312	0.842183	0.000000

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.001607
R squared = 0.100261 r = 0.316640

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.019855			
B1	-0.000041	0.000035	-1.183203	0.245723
B2	-0.000201	0.000153	-1.313173	0.198762

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.000032	0.993042	0.000000	0.000000	0.999863	0.000000
(S'_(n-1))^2	0.132301	0.893726	0.015749	0.534465	0.470408	0.000000
(S'_(n-2))^2	0.195025	0.948442	0.034221	1.186162	0.284777	0.000000
(S'_(n-3))^2	0.222539	0.990314	0.044558	1.563121	0.220874	0.000000
(S'_(n-4))^2	0.338608	0.969468	0.103160	3.885114	0.058003	0.306639
(S'_(n-5))^2	0.382393	0.879412	0.131564	5.138025	0.030779	0.346289
(S'_(n-6))^2	0.263001	0.919169	0.062234	2.229276	0.145861	0.000000
(S'_(n-7))^2	0.137906	0.718803	0.017111	0.581601	0.451640	0.000000
(S'_(n-8))^2	0.114691	0.769450	0.011835	0.399879	0.531942	0.000000
(S'_(n-9))^2	0.076014	0.944681	0.005199	0.174353	0.679245	0.000000
(S'_(n-10))^2	0.383257	0.771817	0.132159	5.165291	0.030371	0.347072

Final results of regression (step #3).

my2

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Division #3, between 57.00 and 80.00 (n = 32).
Detrending equation: PP = b0 + b1 (PHI)
Standard error of regression = 2.135364
R squared = 0.014024  r = 0.118424

                COEF        STD ERROR     T-VALUE     P-LEVEL
B0          2.952408         4.066204    0.726085    0.473414
B1         -0.038804         0.059402   -0.653234    0.518581


Results of detrending for pp :
Division #4, between 80.00 and 100.00 (n = 38).
Detrending equation: PP = b0 + b1 (PHI)
Standard error of regression = 1.381300
R squared = 0.023959  r = 0.154787

                COEF        STD ERROR     T-VALUE     P-LEVEL
B0          2.586758         3.349251    0.772339    0.444955
B1         -0.034263         0.036448   -0.940051    0.353456


Overall detrending for pp:
R squared = 0.115279, r = 0.339527, p = 0.000021.

Results of detrending for int :
Division #1, between 0.00 and 20.00 (n = 21).
Detrending equation: INT = b0 + b1 (PHI)
Standard error of regression = 0.065042
R squared = 0.000246  r = 0.015675

                COEF        STD ERROR     T-VALUE     P-LEVEL
B0         -0.050170         0.040338   -1.243739    0.227301
B1          0.000216         0.003003    0.071841    0.943408


Results of detrending for int :
Division #2, between 20.00 and 50.00 (n = 40).
Detrending equation: INT = b0 + b1 (PHI)
Standard error of regression = 0.058089
R squared = 0.225390  r = 0.474752

                COEF        STD ERROR     T-VALUE     P-LEVEL
B0         -0.110584         0.041542   -2.661974    0.011225
B1          0.003851         0.001143    3.368666    0.001711


Results of detrending for int :
Division #3, between 50.00 and 100.00 (n = 79).
Detrending equation: INT = b0 + b1 (PHI)
Standard error of regression = 0.054309
R squared = 0.005280  r = 0.072665

                COEF        STD ERROR     T-VALUE     P-LEVEL



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B0          0.023451         0.032516    0.721218    0.472960
B1         -0.000262         0.000409   -0.639323    0.524511


Overall detrending for int:
R squared = 0.200242, r = 0.447484, p = 0.000000.

Results of detrending for p1 :
Division #1, between 0.00 and 30.00 (n = 34).
Detrending equation: P1 = b0 + b1 (PHI)
Standard error of regression = 0.679144
R squared = 0.049035  r = 0.221438

                COEF        STD ERROR     T-VALUE     P-LEVEL
B0         -0.584825         0.277083   -2.110646    0.042019
B1          0.018842         0.014025    1.343397    0.187789


Results of detrending for p1 :
Division #2, between 30.00 and 100.00 (n = 106).
Detrending equation: P1 = b0 + b1 (PHI)
Standard error of regression = 0.529470
R squared = 0.002242  r = 0.047349

                COEF        STD ERROR     T-VALUE     P-LEVEL
B0          0.033846         0.173069    0.195562    0.845334
B1          0.001170         0.002420    0.483404    0.629825


Overall detrending for p1:
R squared = 0.074338, r = 0.272650, p = 0.000737.

Results of detrending for p2 :
Division #1, between 0.00 and 30.00 (n = 34).
Detrending equation: P2 = b0 + b1 (PHI)
Standard error of regression = 4.917851
R squared = 0.009171  r = 0.095763
```

my2

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.366308	0.991909	0.134179	9.608519	0.002912	0.112957
S'_(n-1)	0.529026	0.885913	0.279864	24.095359	0.000007	0.163134
S'_(n-2)	0.574978	0.883564	0.330594	30.620199	0.000001	0.177304
S'_(n-3)	0.617074	0.998855	0.380774	38.125930	0.000000	0.190285
S'_(n-4)	0.555362	0.887391	0.308422	27.650692	0.000002	0.171255
S'_(n-5)	0.341525	0.882863	0.116637	8.186493	0.005746	0.105315
S'_(n-6)	0.109298	0.916155	0.011946	0.749608	0.389939	0.000000
S'_(n-7)	0.031470	0.963639	0.000990	0.061464	0.805016	0.000000
S'_(n-8)	0.069740	0.993999	0.004864	0.303018	0.583974	0.000000
S'_(n-9)	0.118932	0.999680	0.014145	0.889555	0.349259	0.000000
S'_(n-10)	0.258623	0.978635	0.066885	4.444173	0.039069	0.079751

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.001065
R squared = 0.428748 r = 0.654789

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.018954			
B1	-0.000002	0.000011	-0.191841	0.848494
B2	-0.000717	0.000105	-6.821428	0.000000

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.316554	0.855799	0.057243	6.793349	0.011484	0.225533
(S'_(n-1))^2	0.339578	0.894195	0.065873	7.950953	0.006474	0.241936
(S'_(n-2))^2	0.270764	0.865352	0.041880	4.825911	0.031844	0.192909
(S'_(n-3))^2	0.266096	0.821225	0.040449	4.648381	0.035036	0.189583
(S'_(n-4))^2	0.136412	0.892644	0.010630	1.156617	0.286404	0.000000
(S'_(n-5))^2	0.035131	0.992124	0.000705	0.075381	0.784586	0.000000
(S'_(n-6))^2	0.101471	0.978909	0.005882	0.634618	0.428756	0.000000
(S'_(n-7))^2	0.210592	0.961823	0.025334	2.830827	0.097583	0.150039
(S'_(n-8))^2	0.061964	0.833218	0.002193	0.235113	0.629495	0.000000
(S'_(n-9))^2	0.017613	0.842214	0.000177	0.018930	0.891021	0.000000
(S'_(n-10))^2	0.073508	0.897572	0.003087	0.331402	0.566952	0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum(w_i, (S'_(i-n))^2)
Standard error of regression = 0.000957
R squared = 0.546443 r = 0.739218

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.020758			
B1	-0.000014	0.000010	-1.335914	0.186540
B2	-0.000748	0.000095	-7.889161	0.000000
B3	-0.000266	0.000067	-3.978569	0.000187

OVERALL REGRESSION FOR P2:
REGRESSION EQUATION = 1/P2 = b0 + b1 (phi) + b2 SUM(v S') + b3 SUM (w S'^2)
R squared = 0.408125, r = 0.638846, p = 0.000000.

Results of detrending for pp :
Division #1, between 0.00 and 15.00 (n = 16).
Detrending equation: PP = b0 + b1 (PHI)
Standard error of regression = 1.758332
R squared = 0.069363 r = 0.263369

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.054485	1.445340	0.037697	0.970462
B1	-0.136386	0.133515	-1.021502	0.324345

Results of detrending for pp :
Division #2, between 15.00 and 57.00 (n = 57).
Detrending equation: PP = b0 + b1 (PHI)
Standard error of regression = 1.916537
R squared = 0.183767 r = 0.428681

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	-2.321363	0.809948	-2.866066	0.005878
B1	0.074241	0.021098	3.518912	0.000878

Results of detrending for pp :

B6	-0.011052	0.031780	-0.347774	0.728529
B7	-0.041523	0.031723	-1.308938	0.192685
B8	0.002420	0.031869	0.075932	0.939581
B9	-0.006861	0.032144	-0.213453	0.831282
B10	0.015756	0.032357	0.486939	0.627057
B11	-0.006089	0.025876	-0.235296	0.814321

Overall results of linear modelling of p1
after retrending: R-squared = 0.244926, r = 0.494900.

Results of linear model for p2 :
Linear model equation: P2 = b0 + b1 (S_n) + ... + b(1+m) (S_n-m)
Standard error of linear model = 3.751429
R squared = 0.162600 r = 0.403236

	COEF	STD ERROR	T-VALUE	P
B0	-49.304223	35.496815	-1.388976	0.167030
B1	0.264891	0.209268	1.265800	0.207672
B2	0.233376	0.245353	0.951183	0.343139
B3	0.065287	0.244834	0.266657	0.790123
B4	0.389377	0.240458	1.619316	0.107614
B5	0.007394	0.225696	0.032760	0.973913
B6	0.254637	0.226383	1.124807	0.262582
B7	-0.053211	0.225978	-0.235470	0.814186
B8	0.021298	0.227019	0.093817	0.925388
B9	-0.127207	0.228979	-0.555541	0.579405
B10	-0.049632	0.230496	-0.215328	0.829823
B11	-0.174636	0.184331	-0.947406	0.345053

Overall results of linear modelling of p2
after retrending: R-squared = 0.179302, r = 0.423441.

Results of linear model for diast :
Linear model equation: D_n+1 = b0 + b1(D) + b2(D') + b3(D'') + b4(PP) + b5(INT) + b6(P1) + b7(P2)
Standard error of linear model = 0.706242
R squared = 0.550597 r = 0.742022

	COEF	STD ERROR	T-VALUE	P
B0	33.154000	7.042616	4.707626	0.000006
B1	0.704907	0.088742	7.943338	0.000000
B2	-0.011085	0.013411	-0.826579	0.409872
B3	-0.000234	0.000630	-0.371918	0.710512
B4	0.017634	0.029907	0.589615	0.556392
B5	-7.530727	1.255703	-5.997219	0.000000
B6	-0.003002	0.114623	-0.026189	0.979143
B7	-0.046624	0.016353	-2.851153	0.005011

Results of linear model for ddiast :
Linear model equation: D'_n+1 = b0 + b1(D) + b2(D') + b3(D'') + b4(PP) + b5(INT) + b6(P1) + b7(P2)

Standard error of linear model = 15.559985
R squared = 0.049044 r = 0.221459

	COEF	STD ERROR	T-VALUE	P
B0	-134.066521	155.163622	-0.864033	0.389037
B1	1.636922	1.955171	0.837227	0.403882
B2	0.146231	0.295477	0.494898	0.621443
B3	-0.016272	0.013874	-1.172849	0.242834
B4	0.692789	0.658921	1.051399	0.294874
B5	-15.355427	27.665780	-0.555033	0.579751
B6	-1.578297	2.525393	-0.624971	0.533000
B7	0.166173	0.360285	0.461226	0.645347

Results of linear model for dddiast :
Linear model equation: D''_n+1 = b0 + b1(D) + b2(D') + b3(D'') + b4(PP) + b5(INT) + b6(P1) + b7(P2)
Standard error of linear model = 293.284595
R squared = 0.038459 r = 0.196109

	COEF	STD ERROR	T-VALUE	P
B0	-1415.761523	2924.623697	-0.484083	0.629078
B1	11.199801	36.852320	0.303910	0.761644
B2	-3.495172	5.569334	-0.627574	0.531298
B3	0.024745	0.261501	0.094627	0.924745
B4	11.900578	12.419767	0.958197	0.339604
B5	-91.681043	521.462415	-0.175815	0.860691
B6	-26.294329	47.600232	-0.552399	0.581549
B7	6.597428	6.790882	0.971513	0.332957

Results of windkessel model for diast :
Overall results for diast:
R-squared = 0.791602, r = 0.889720.

NONLINEAR FORECAST RESULTS (In-sample, n = 130):

STEP	PP	INT	P1	P2	DIAST
0	0.567614	0.480578	0.523367	0.578875	1.000000
1	0.033443	0.340354	0.142446	0.465659	-0.067478
2	0.027128	0.251504	0.205883	0.344982	-0.129728
3	0.045822	0.217487	0.178770	0.279145	-0.153117

my2

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	-1.617594	2.006431	-0.806204	0.425569
B1	0.057804	0.101561	0.569158	0.572884

Results of detrending for p2 :
Division #2, between 30.00 and 60.00 (n = 41).
Detrending equation: P2 = b0 + b1 (PHI)
Standard error of regression = 3.759801
R squared = 0.000200 r = 0.014155

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.094960	2.905448	0.032683	0.974094
B1	-0.005521	0.062455	-0.088404	0.930008

Results of detrending for p2 :
Division #3, between 60.00 and 100.00 (n = 65).

Detrending equation: P2 = b0 + b1 (PHI)
Standard error of regression = 4.011320
R squared = 0.000000 r = 0.000568

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	-0.011134	3.401148	-0.003274	0.997398
B1	-0.000184	0.040718	-0.004507	0.996418

Overall detrending for p2:
R squared = 0.036134, r = -0.190089, p = 0.019810.

Results of linear model for pp :
Linear model equation: PP = b0 + b1 (I_n-1) + b2 (D_n)
Standard error of linear model = 2.146603
R squared = 0.001867 r = 0.043205

	COEF	STD ERROR	T-VALUE	P
B0	49.950849	13.814513	3.615824	0.000412
B1	1.642891	3.147552	0.521958	0.602490
B2	0.010869	0.174008	0.062462	0.950281

Overall results of linear modelling of pp
after retrending: R-squared = 0.143424, r = 0.378714.

Results of linear model for int :
Linear model equation: INT = b0 + b1 (S_n) + ... + b(1+m) (S_n-m)
Standard error of linear model = 0.046512
R squared = 0.333152 r = 0.577193

	COEF	STD ERROR	T-VALUE	P
B0	0.263311	0.440103	0.598294	0.550604
B1	0.016146	0.002595	6.223086	0.000000
B2	-0.001507	0.003042	-0.495458	0.621048
B3	-0.002238	0.003036	-0.737173	0.462242
B4	-0.001085	0.002981	-0.363932	0.716454
B5	-0.000681	0.002798	-0.243501	0.807971
B6	-0.001715	0.002807	-0.611056	0.542146
B7	-0.002952	0.002802	-1.053478	0.293924
B8	0.000345	0.002815	0.122481	0.902692
B9	0.000385	0.002839	0.135584	0.892343
B10	-0.001568	0.002858	-0.548786	0.584021
B11	0.004528	0.002285	1.981305	0.049502

Overall results of linear modelling of int
after retrending: R-squared = 0.454483, r = 0.674153.

Results of linear model for p1 :
Linear model equation: P1 = b0 + b1 (S_n) + ... + b(1+m) (S_n-m)
Standard error of linear model = 0.526627
R squared = 0.155888 r = 0.394826

	COEF	STD ERROR	T-VALUE	P
B0	32.526163	4.983060	6.527347	0.000000

B1	0.070932	0.029377	2.414520	0.017038
B2	-0.103881	0.034443	-3.016042	0.003039
B3	0.020991	0.034370	0.610751	0.542348
B4	-0.074704	0.033756	-2.213072	0.028500
B5	0.029496	0.031683	0.930973	0.353459

my2

Out-of-sample data for beats 101 through 129 (n = 29):

BEATNO	TIME	INT	DIAS	DIAS'	DIAS''	SYST	PP	P1	P2	P3	P4	P5	P6	RESP
AVG	2558.949	1.475	64.52	-30.26	-132.13	130.64	66.12	20.05	57.80	1129.50	109664.19	47.95	35.40	55.41
STDDEV	12.562	0.062	1.12	14.69	331.57	2.13	1.63	0.60	5.01	36.68	4456.50	3.49	9.62	28.78

Results of regression for p3 :
Regression equation: P3 = b0 + b1 (P1) + b2 (P1)^2
Standard error of regression = 33.735765
R squared = 0.714135 r = 0.845065

	COEF	STD ERROR	T-VALUE	P
B0	-296.639257	1466.728692	-0.202245	0.840311
B1	81.929496	143.402445	0.571326	0.569609
B2	-0.670555	3.500369	-0.191567	0.848636

Results of regression for p4 :
Regression equation: P4 = b0 + b1 (PP)
Standard error of regression = 2280.653967
R squared = 0.622074 r = 0.788717

	COEF	STD ERROR	T-VALUE	P
B0	-33406.818392	13344.795961	-2.503359	0.014604
B1	2168.734978	200.613225	10.810528	0.000000

Results of regression for p5 :
Regression equation: P5 = b0 + b1 (P2) + b2 (P2)^2 + b3 (P2)^3
Standard error of regression = 1.806187
R squared = 0.585297 r = 0.765047

	COEF	STD ERROR	T-VALUE	P
B0	-247.605048	319.030552	-0.776117	0.440332
B1	14.715238	16.607589	0.886055	0.378666
B2	-0.248860	0.286989	-0.867140	0.388871
B3	0.001440	0.001646	0.874811	0.384712

Results of regression for p6 :
Regression equation: P6 = b0 + b1 (P1)
Standard error of regression = 8.719914
R squared = 0.074040 r = 0.272102

	COEF	STD ERROR	T-VALUE	P
B0	-20.238208	21.841941	-0.926576	0.357286
B1	2.537044	1.064787	2.382676	0.019867

Results of regression for pp :
Division #1, between 0.00 and 20.00 (n = 14).
Regression equation: PP = b0 + b1 (PHI) + b2 (I_n-1) + b3 (D)
Standard error of regression = 0.636754
R squared = 0.715673 r = 0.845975

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	91.204664	10.916799	8.354524	0.000008
B1	-0.140977	0.036835	-3.827277	0.003334
B2	6.608424	7.182831	0.920030	0.379216
B3	-0.519673	0.193624	-2.683922	0.022938

Results of regression for pp :
Division #2, between 20.00 and 70.00 (n = 39).
Regression equation: PP = b0 + b1 (PHI) + b2 (I_n-1) + b3 (D)
Standard error of regression = 0.879574
R squared = 0.564663 r = 0.751440

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	75.853018	8.078658	9.389309	0.000000
B1	0.076264	0.011749	6.491099	0.000000
B2	5.117178	3.467533	1.475740	0.148954
B3	-0.318141	0.122818	-2.590341	0.013884

Results of regression for pp :
Division #3, between 70.00 and 100.00 (n = 19).
Regression equation: PP = b0 + b1 (PHI) + b2 (I_n-1) + b3 (D)
Standard error of regression = 0.755091
R squared = 0.385745 r = 0.621083

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	90.167525	13.960808	6.458618	0.000011
B1	-0.036639	0.023988	-1.527391	0.147473
B2	8.721015	6.273400	1.390158	0.184766
B3	-0.504600	0.183154	-2.755053	0.014736

Overall regression for pp:

my2

4	0.113445	0.264212	0.177540	0.234560	-0.094536
5	0.029233	0.263133	0.113999	0.250693	-0.133091
6	-0.127701	0.346087	0.016187	0.254158	-0.079185
7	-0.065143	0.306490	-0.078609	0.270848	-0.030087
8	-0.038750	0.231691	-0.060776	0.207705	-0.107359
9	-0.047595	0.188996	-0.071378	0.257835	-0.157655
10	-0.020887	0.165249	0.011691	0.272167	-0.196416

NONLINEAR FORECAST RESULTS (Out-of-sample, n = 73):

STEP	PP	INT	P1	P2	DIAST
0	0.251752	0.151798	0.146289	0.205952	1.000000
1	-0.269797	0.007606	0.227263	0.230422	-0.052048
2	-0.308272	-0.063153	0.165303	0.179755	-0.100672
3	-0.243687	-0.084086	0.020479	0.180238	0.050565
4	-0.212135	-0.171776	-0.220866	-0.029155	0.265133

5	-0.395444	-0.318768	-0.170882	-0.205473	0.141282
6	-0.491850	-0.167018	-0.145439	-0.267864	-0.137299
7	-0.453286	-0.116340	-0.198667	-0.263188	0.058755
8	-0.428031	-0.095163	-0.304219	-0.335744	0.054810
9	-0.439441	-0.090902	-0.330931	-0.299422	0.055979
10	-0.310323	-0.094801	-0.123648	-0.235384	-0.094870

LINEAR FORECAST RESULTS (In-sample, n = 130):

STEP	PP	INT	P1	P2	DIAST
0	0.525195	0.109390	0.106625	-0.471010	1.000000
1	0.483066	0.098351	0.088624	-0.434604	0.638053
2	0.466683	0.048161	0.051721	-0.397948	0.346565
3	0.422752	0.046320	0.042668	-0.358469	0.196643
4	0.366948	0.061714	0.017316	-0.315403	0.136875
5	0.308847	0.052974	0.000466	-0.280382	0.119786
6	0.275499	0.027061	-0.025491	-0.238214	0.149746
7	0.250610	0.025917	-0.032258	-0.207871	0.115121
8	0.225709	0.005159	-0.029952	-0.185605	0.204584
9	0.228643	-0.010353	-0.038939	-0.164095	0.303921
10	0.212163	-0.038604	-0.021899	-0.163013	0.264608

LINEAR FORECAST RESULTS (Out-of-sample, n = 73):

STEP	PP	INT	P1	P2	DIAST
0	-0.037861	0.084027	0.166438	-0.344023	1.000000
1	-0.019705	0.185136	0.127136	-0.336975	0.748018
2	0.010481	0.173931	0.120189	-0.323131	0.421861
3	0.073078	0.119211	0.016095	-0.335124	0.118081
4	0.113194	0.071642	-0.007643	-0.357707	-0.018102
5	0.118313	0.053340	-0.003124	-0.376777	0.061391
6	0.107888	0.073378	-0.001077	-0.413504	0.189947
7	0.053670	0.133452	-0.003322	-0.447849	0.106926
8	-0.003424	0.156750	-0.064914	-0.461807	0.269889
9	-0.050762	0.130614	-0.114769	-0.482827	0.429621
10	-0.063970	0.123113	-0.118278	-0.449500	0.501872

Error analysis for long forecast into file nl16.00:
Errors in p1: 0
Errors in p2: 0
Errors in p5: 0
Post inflection adjustment in p5: 12

In-sample data for beats 27 through 100 (n = 73):

BEATNO	TIME	INT	DIAS	DIAS'	DIAS''	SYST	PP	P1	P2	P3	P4	P5	P6	RESP
AVG	2483.660	1.468	64.70	-31.68	-143.92	131.20	66.51	20.49	58.06	1099.98	110828.61	49.79	31.75	50.64
STDDEV	31.148	0.063	1.20	15.51	292.20	1.70	1.34	0.97	4.59	62.21	3683.99	2.75	9.00	29.10

my2

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.654470	0.444310	0.152833	10.489699	0.005944	0.274730
S'_(n-1)	0.626110	0.937480	0.139874	9.026842	0.009467	0.262825
S'_(n-2)	0.366257	0.504954	0.047864	2.168973	0.162944	0.000000
S'_(n-3)	0.173347	0.842229	0.010722	0.433719	0.520854	0.000000
S'_(n-4)	0.014048	0.952848	0.000070	0.002764	0.958818	0.000000
S'_(n-5)	0.614107	0.676084	0.134563	8.476524	0.011382	0.257786
S'_(n-6)	0.487546	0.885045	0.084814	4.365489	0.055411	0.204659
S'_(n-7)	0.280056	0.744106	0.027985	1.191493	0.293458	0.000000
S'_(n-8)	0.397230	0.838342	0.056301	2.622960	0.127627	0.000000
S'_(n-9)	0.106368	0.544244	0.004037	0.160211	0.695003	0.000000
S'_(n-10)	0.213079	0.723175	0.016200	0.665868	0.428162	0.000000

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.026621
R squared = 0.836920 r = 0.914833

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	1.294066			
B1	0.004122	0.001034	3.987498	0.001349
B2	0.035417	0.008685	4.078127	0.001129

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.238503	0.719110	0.009277	0.784089	0.391978	0.000000
(S'_(n-1))^2	0.147931	0.583120	0.003569	0.290852	0.598791	0.000000
(S'_(n-2))^2	0.123338	0.839546	0.002481	0.200815	0.661441	0.000000
(S'_(n-3))^2	0.264161	0.792927	0.011380	0.975201	0.341411	0.000000
(S'_(n-4))^2	0.230658	0.957739	0.008676	0.730505	0.408195	0.000000
(S'_(n-5))^2	0.391453	0.731734	0.024990	2.352552	0.149049	1.000000
(S'_(n-6))^2	0.138004	0.525266	0.003106	0.252395	0.623796	0.000000
(S'_(n-7))^2	0.164505	0.813153	0.004413	0.361591	0.557964	0.000000
(S'_(n-8))^2	0.212030	0.752090	0.007332	0.611951	0.448069	0.000000
(S'_(n-9))^2	0.231157	0.897406	0.008714	0.733848	0.407153	0.000000
(S'_(n-10))^2	0.178556	0.698166	0.005199	0.428120	0.524320	0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum[w_i, (S'_(i-n))^2)
Standard error of regression = 0.025422
R squared = 0.861909 r = 0.928391

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	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	1.287591			
B1	0.004370	0.001000	4.369010	0.000760
B2	0.028070	0.009577	2.930781	0.011696
B3	-0.005229	0.003409	-1.533803	0.149049

RESULTS OF REGRESSION FOR VARIABLE INT:
DIVISION #3, BETWEEN 60.00 AND 100.00 (n = 25).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.022508
R squared = 0.223418 r = 0.472671

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	1.599147			
B1	-0.000959	0.000373	-2.572344	0.017030

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.624712	0.937055	0.303073	14.081240	0.001101	0.430750
S'_(n-1)	0.428759	0.598194	0.142762	4.955303	0.036569	0.295637
S'_(n-2)	0.179526	0.584168	0.025029	0.732663	0.401248	0.000000
S'_(n-3)	0.146772	0.651013	0.016729	0.484356	0.493743	0.000000
S'_(n-4)	0.227028	0.582880	0.040026	1.195535	0.286044	0.000000
S'_(n-5)	0.270713	0.972344	0.056912	1.739782	0.200732	0.000000
S'_(n-6)	0.139426	0.564113	0.015097	0.436152	0.515842	0.000000
S'_(n-7)	0.002183	0.923849	0.000004	0.000105	0.991923	0.000000
S'_(n-8)	0.071557	0.549119	0.003976	0.113230	0.739685	0.000000
S'_(n-9)	0.341410	0.701322	0.090519	2.902671	0.102519	0.000000
S'_(n-10)	0.396817	0.966434	0.122284	4.111646	0.054871	0.273613

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.017768
R squared = 0.537115 r = 0.732881

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	1.610295			

my2

R squared = 0.688463, r = 0.829737, p = 0.000000.

RESULTS OF REGRESSION FOR VARIABLE INT:
DIVISION #1, BETWEEN 0.00 AND 30.00 (n = 21).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.042066
R squared = 0.296981 r = 0.544959

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	1.478912			
B1	-0.002938	0.001037	-2.833071	0.010628

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.600725	0.564133	0.253699	10.163300	0.005095	0.241813
S'_(n-1)	0.319474	0.535947	0.071753	2.045965	0.169741	0.000000
S'_(n-2)	0.342996	0.915508	0.082708	2.399988	0.138739	0.000000
S'_(n-3)	0.021878	0.681834	0.000336	0.008620	0.927055	0.000000
S'_(n-4)	0.306456	0.959135	0.066024	1.865686	0.188795	0.000000
S'_(n-5)	0.513428	0.428681	0.185322	6.443520	0.020592	0.206673
S'_(n-6)	0.574090	0.770142	0.231700	8.848801	0.008120	0.231092
S'_(n-7)	0.399219	0.895759	0.112044	3.412668	0.081202	0.160700
S'_(n-8)	0.076238	0.575196	0.004086	0.105233	0.749377	0.000000
S'_(n-9)	0.218360	0.939608	0.033521	0.901227	0.355026	0.000000
S'_(n-10)	0.396787	0.621355	0.110683	3.363460	0.083245	0.159721

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.025642
R squared = 0.752513 r = 0.867475

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	1.412291			
B1	0.001351	0.000977	1.382108	0.183851
B2	0.056792	0.009867	5.755978	0.000019

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.158991	0.566881	0.006256	0.440871	0.515608	0.000000
(S'_(n-1))^2	0.216425	0.741874	0.011592	0.835409	0.373495	0.000000
(S'_(n-2))^2	0.147561	0.745778	0.005389	0.378402	0.546607	0.000000
(S'_(n-3))^2	0.049366	0.950507	0.000603	0.041530	0.840937	0.000000
(S'_(n-4))^2	0.086529	0.931645	0.001853	0.128243	0.724669	0.000000
(S'_(n-5))^2	0.190809	0.660524	0.009011	0.642322	0.433931	0.000000
(S'_(n-6))^2	0.173310	0.732499	0.007434	0.526432	0.477981	0.000000
(S'_(n-7))^2	0.328921	0.440249	0.026775	2.062338	0.169125	1.000000
(S'_(n-8))^2	0.096877	0.889921	0.002323	0.161060	0.693182	0.000000
(S'_(n-9))^2	0.237260	0.840725	0.013932	1.014053	0.328053	0.000000
(S'_(n-10))^2	0.171268	0.759365	0.007259	0.513722	0.483264	0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum[w_i, [S'_(i-n)]^2)
Standard error of regression = 0.024918
R squared = 0.779288 r = 0.882773

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	1.415359			
B1	0.001799	0.001000	1.799768	0.089670
B2	0.069852	0.013215	5.285841	0.000061
B3	-0.003672	0.002557	-1.436084	0.169125

RESULTS OF REGRESSION FOR VARIABLE INT:
DIVISION #2, BETWEEN 30.00 AND 60.00 (n = 17).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.038042
R squared = 0.643191 r = 0.801992

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	1.152622			
B1	0.006428	0.001236	5.199929	0.000108

my2

(S'_(n-4))^2	0.008424	0.713525	0.000029	0.001348	0.971092	0.000000
(S'_(n-5))^2	0.062712	0.749664	0.001590	0.075018	0.787121	0.000000
(S'_(n-6))^2	0.094829	0.716595	0.003636	0.172407	0.682633	0.000000
(S'_(n-7))^2	0.291543	0.640380	0.034364	1.764972	0.199743	0.497353
(S'_(n-8))^2	0.195555	0.945639	0.015461	0.755487	0.395592	0.000000
(S'_(n-9))^2	0.031885	0.716654	0.000411	0.019336	0.890870	0.000000
(S'_(n-10))^2	0.294647	0.674865	0.035100	1.806339	0.194778	0.502647

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum(w_i, [S'_(i-n)]^2)
Standard error of regression = 0.001362
R squared = 0.597297 r = 0.772850

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.050772			
B1	-0.000126	0.000035	-3.602791	0.001896
B2	-0.002652	0.000586	-4.528578	0.000230
B3	0.000058	0.000212	0.274418	0.786725

RESULTS OF REGRESSION FOR VARIABLE P1:
DIVISION #2, BETWEEN 37.00 AND 45.00 (n = 6).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.002149
R squared = 0.000001 r = 0.001015

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.048794			
B1	-0.000001	0.000383	-0.002030	0.998478

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.926405	0.999677	0.858226	18.160515	0.023700	1.000000
S'_(n-1)	0.214232	0.839772	0.045895	0.144310	0.729332	0.000000
S'_(n-2)	0.082477	0.256929	0.006802	0.020547	0.895106	0.000000
S'_(n-3)	0.070087	0.951247	0.004912	0.014809	0.910836	0.000000
S'_(n-4)	0.737582	0.856925	0.544027	3.579344	0.154861	0.000000
S'_(n-5)	0.631219	0.884075	0.398436	1.987007	0.253436	0.000000
S'_(n-6)	0.246807	0.501551	0.060914	0.194594	0.688976	0.000000
S'_(n-7)	0.082386	0.999480	0.006788	0.020502	0.895221	0.000000
S'_(n-8)	0.078337	0.923774	0.006137	0.018524	0.900360	0.000000

S'_(n-9)	0.678761	0.270104	0.460717	2.562943	0.207708	0.000000
S'_(n-10)	0.423827	0.880307	0.179629	0.656884	0.476988	0.000000

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.000934
R squared = 0.858227 r = 0.926405

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.047729			
B1	-0.000014	0.000167	-0.081225	0.940379
B2	-0.001628	0.000382	-4.261516	0.023700

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.942825	0.195847	0.126025	16.004749	0.057175	1.000000
(S'_(n-1))^2	0.864464	0.655293	0.105947	5.914454	0.135536	0.000000
(S'_(n-2))^2	0.220419	0.254933	0.006888	0.102131	0.779581	0.000000
(S'_(n-3))^2	0.646039	0.799093	0.059171	1.432687	0.353961	0.000000
(S'_(n-4))^2	0.253156	0.649853	0.009086	0.136953	0.746844	0.000000
(S'_(n-5))^2	0.483565	0.080935	0.033152	0.610403	0.516435	0.000000
(S'_(n-6))^2	0.721177	0.503227	0.073736	2.167502	0.278823	0.000000
(S'_(n-7))^2	0.378488	0.652007	0.020309	0.334412	0.621512	0.000000
(S'_(n-8))^2	0.183806	0.844325	0.004790	0.069932	0.816194	0.000000
(S'_(n-9))^2	0.479242	0.292586	0.032561	0.596299	0.520758	0.000000
(S'_(n-10))^2	0.124882	0.765172	0.002211	0.031685	0.875118	0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum(w_i, [S'_(i-n)]^2)
Standard error of regression = 0.000381
R squared = 0.984252 r = 0.992095

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.042938			
B1	0.000102	0.000074	1.385103	0.300284
B2	-0.000387	0.000347	-1.116649	0.380300
B3	0.000612	0.000153	4.000594	0.057175

RESULTS OF REGRESSION FOR VARIABLE P1:
DIVISION #3, BETWEEN 45.00 AND 57.00 (n = 7).

Partial results of regression (step #1).

my2

B1	-0.001312	0.000308	-4.258003	0.000321
B2	0.017341	0.004491	3.861268	0.000845

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.213467	0.464763	0.021093	1.002622	0.328076	0.000000
(S'_(n-1))^2	0.146280	0.847267	0.009905	0.459180	0.505405	0.000000
(S'_(n-2))^2	0.283710	0.775639	0.037258	1.838284	0.189554	1.000000
(S'_(n-3))^2	0.208731	0.911282	0.020167	0.956622	0.339173	0.000000
(S'_(n-4))^2	0.017314	0.895163	0.000139	0.006297	0.937503	0.000000
(S'_(n-5))^2	0.098884	0.830348	0.004526	0.207367	0.653512	0.000000
(S'_(n-6))^2	0.054278	0.981937	0.001364	0.062050	0.805704	0.000000

(S'_(n-7))^2	0.143900	0.908378	0.009585	0.444045	0.512431	0.000000
(S'_(n-8))^2	0.084493	0.708777	0.003305	0.150997	0.701496	0.000000
(S'_(n-9))^2	0.186139	0.954632	0.016038	0.753716	0.395116	0.000000
(S'_(n-10))^2	0.207664	0.767579	0.019962	0.946424	0.341705	0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum[w_i, [S'_(i-n)]^2)
Standard error of regression = 0.017439
R squared = 0.574373 r = 0.757874

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	1.599999			
B1	-0.001296	0.000303	-4.282706	0.000330
B2	0.020334	0.004930	4.124818	0.000482
B3	0.002484	0.001832	1.355833	0.189554

OVERALL REGRESSION FOR INT:
REGRESSION EQUATION = I_n = b0 + b1 (phi) + b2 SUM(v S') + b3 SUM (w S'^2)
R squared = 0.892011, r = 0.944463, p = 0.000000.

RESULTS OF REGRESSION FOR VARIABLE P1:
DIVISION #1, BETWEEN 0.00 AND 37.00 (n = 23).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.002006
R squared = 0.034691 r = 0.186254

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.050515			
B1	-0.000037	0.000042	-0.868725	0.394818

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.683056	0.674482	0.450381	17.492927	0.000459	0.242373
S'_(n-1)	0.424669	0.526192	0.174088	4.400482	0.048839	0.150688
S'_(n-2)	0.363908	0.909510	0.127835	3.052872	0.095933	0.129128
S'_(n-3)	0.229112	0.654468	0.050671	1.108005	0.305068	0.000000
S'_(n-4)	0.353434	0.892135	0.120582	2.854936	0.106623	0.000000
S'_(n-5)	0.446786	0.459150	0.192693	4.988062	0.037107	0.158536
S'_(n-6)	0.355603	0.676378	0.122067	2.895179	0.104341	0.000000
S'_(n-7)	0.104983	0.900789	0.010639	0.222886	0.641960	0.000000
S'_(n-8)	0.378258	0.494511	0.138116	3.339384	0.082601	0.134220
S'_(n-9)	0.521523	0.990119	0.262550	7.471991	0.012803	0.185055
S'_(n-10)	0.139873	0.534943	0.018886	0.399100	0.534710	0.000000

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.001330
R squared = 0.595701 r = 0.771817

	COEF	STD ERROR	T-VALUE	P-LEVEL

B0	0.050890			
B1	-0.000123	0.000033	-3.780420	0.001175
B2	-0.002568	0.000488	-5.268045	0.000037

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.043981	0.700540	0.000782	0.036823	0.849862	0.000000
(S'_(n-1))^2	0.025293	0.524706	0.000259	0.012163	0.913341	0.000000
(S'_(n-2))^2	0.158288	0.336055	0.010130	0.488278	0.493162	0.000000
(S'_(n-3))^2	0.266651	0.968447	0.028747	1.454366	0.242632	0.000000

my2

S'_(n-2)	0.316677	0.580859	0.100263	2.675089	0.114979	0.000000
S'_(n-3)	0.299883	0.582197	0.089911	2.371590	0.136643	0.000000
S'_(n-4)	0.063122	0.609242	0.003984	0.096007	0.759349	0.000000
S'_(n-5)	0.299031	0.971515	0.089401	2.356810	0.137816	0.000000
S'_(n-6)	0.158031	0.548625	0.024969	0.614723	0.440685	0.000000
S'_(n-7)	0.012071	0.987598	0.000146	0.003497	0.953332	0.000000
S'_(n-8)	0.206213	0.481091	0.042515	1.065894	0.312167	0.000000
S'_(n-9)	0.160530	0.654354	0.025765	0.634840	0.433397	0.000000
S'_(n-10)	0.351636	0.900928	0.123622	3.386255	0.078142	0.289895

Partial results of regression (step #2).

Variables in: resp, sum(v_i S'_(i-n)].
Standard error of regression = 0.001466
R squared = 0.290905 r = 0.539356

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.046759			
B1	0.000023	0.000023	0.966285	0.343539
B2	-0.001115	0.000356	-3.136695	0.004475

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.053412	0.487979	0.002023	0.065803	0.799830	0.000000
(S'_(n-1))^2	0.034716	0.852017	0.000855	0.027753	0.869146	0.000000
(S'_(n-2))^2	0.101816	0.719961	0.007351	0.240929	0.628186	0.000000
(S'_(n-3))^2	0.290845	0.866428	0.059983	2.125371	0.158398	0.000000
(S'_(n-4))^2	0.340590	0.915881	0.082256	3.018153	0.095712	1.000000
(S'_(n-5))^2	0.082061	0.882082	0.004775	0.155934	0.696566	0.000000
(S'_(n-6))^2	0.016764	0.995279	0.000199	0.006465	0.936609	0.000000
(S'_(n-7))^2	0.052472	0.976835	0.001952	0.063500	0.803285	0.000000
(S'_(n-8))^2	0.169617	0.699717	0.020401	0.681310	0.417615	0.000000
(S'_(n-9))^2	0.231255	0.940483	0.037921	1.299506	0.266036	0.000000
(S'_(n-10))^2	0.305227	0.861559	0.066062	2.362894	0.137896	0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum(w_i, (S'_(i-n)]^2)
Standard error of regression = 0.001408
R squared = 0.373161 r = 0.610869

	COEF	STD ERROR	T-VALUE	P-LEVEL

B0	0.045510			
B1	0.000034	0.000023	1.466604	0.156024
B2	-0.001171	0.000343	-3.414308	0.002375
B3	0.000240	0.000138	1.737283	0.095712

OVERALL REGRESSION FOR P1:
REGRESSION EQUATION = 1/P1 = b0 + b1 (ph1) + b2 SUM(v S') + b3 SUM (w S'^2)
R squared = 0.702388, r = 0.838086, p = 0.000000.

RESULTS OF REGRESSION FOR VARIABLE P2:
DIVISION #1, BETWEEN 0.00 AND 46.00 (n = 29).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.001220
R squared = 0.107879 r = 0.328449

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.017808			
B1	-0.000032	0.000018	-1.806916	0.081933

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.695043	0.890639	0.430970	24.298332	0.000040	0.194032
S'_(n-1)	0.381901	0.366450	0.130115	4.439563	0.044916	0.106614
S'_(n-2)	0.403328	0.893953	0.145125	5.051210	0.033316	0.112595
S'_(n-3)	0.087883	0.636167	0.006890	0.202374	0.656540	0.000000
S'_(n-4)	0.629184	0.540981	0.353166	17.037232	0.000335	0.175646
S'_(n-5)	0.522868	0.698625	0.243898	9.782636	0.004307	0.145967
S'_(n-6)	0.174391	0.485820	0.027131	0.815515	0.374786	0.000000
S'_(n-7)	0.133422	0.856955	0.015881	0.471222	0.498502	0.000000
S'_(n-8)	0.169786	0.421356	0.025717	0.771757	0.387721	0.000000
S'_(n-9)	0.487179	0.812781	0.211739	8.091352	0.008555	0.136004
S'_(n-10)	0.462603	0.563965	0.190916	7.078961	0.013186	0.129143

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.000770
R squared = 0.657778 r = 0.811035

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.018222			
B1	-0.000014	0.000011	-1.262661	0.217919
B2	0.001329	0.000206	6.463600	0.000001

my2

```
Variables in: resp.
Standard error of regression = 0.001226
R squared = 0.740837  r = 0.860719

              COEF        STD ERROR     T-VALUE     P-LEVEL
B0         0.075689
B1        -0.000555         0.000147  -3.780592   0.012882

Variables not in model:
```


	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.189616	0.136724	0.009318	0.149181	0.718985	0.000000
S'_(n-1)	0.258405	0.511816	0.017305	0.286202	0.621020	0.000000
S'_(n-2)	0.355347	0.694582	0.032725	0.578082	0.489414	0.000000
S'_(n-3)	0.288601	0.982637	0.021586	0.363433	0.579117	0.000000
S'_(n-4)	0.175717	0.852482	0.008002	0.127441	0.739137	0.000000
S'_(n-5)	0.616821	0.646492	0.098603	2.456484	0.192109	1.000000
S'_(n-6)	0.296106	0.972970	0.022723	0.384420	0.568822	0.000000
S'_(n-7)	0.432671	0.967618	0.048516	0.921284	0.391493	0.000000
S'_(n-8)	0.261332	0.999581	0.017699	0.293202	0.616926	0.000000
S'_(n-9)	0.168797	0.808539	0.007384	0.117312	0.749209	0.000000
S'_(n-10)	0.095579	0.508092	0.002368	0.036878	0.857068	0.000000

```
Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.001079
R squared = 0.839440  r = 0.916210

              COEF        STD ERROR     T-VALUE     P-LEVEL
B0         0.066993
B1        -0.000406         0.000161  -2.522383   0.065191
B2        -0.000935         0.000596  -1.567318   0.192109

Variables not in model:
```

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.112091	0.709838	0.002017	0.038173	0.857581	0.000000
(S'_(n-1))^2	0.587161	0.575771	0.055354	1.578464	0.297912	0.000000
(S'_(n-2))^2	0.313473	0.343863	0.015777	0.326921	0.607510	0.000000
(S'_(n-3))^2	0.096911	0.631318	0.001508	0.028442	0.876803	0.000000
(S'_(n-4))^2	0.825753	0.236787	0.109480	6.430025	0.084995	1.000000
(S'_(n-5))^2	0.131385	0.023769	0.002772	0.052696	0.833198	0.000000
(S'_(n-6))^2	0.231512	0.975659	0.008606	0.169899	0.707885	0.000000
(S'_(n-7))^2	0.437500	0.407443	0.030732	0.710145	0.461277	0.000000
(S'_(n-8))^2	0.563839	0.951248	0.051044	1.398276	0.322195	0.000000
(S'_(n-9))^2	0.229152	0.828691	0.008431	0.166263	0.710808	0.000000
(S'_(n-10))^2	0.220711	0.573725	0.007821	0.153624	0.721280	0.000000

```
Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum[w_i, [S'_(i-n)]^2]
Standard error of regression = 0.000703
R squared = 0.948921  r = 0.974126

              COEF        STD ERROR     T-VALUE     P-LEVEL
B0         0.081355
B1        -0.000582         0.000126  -4.629114   0.018986
B2         0.000775         0.000778   0.995899   0.392702
B3        -0.001710         0.000674  -2.535749   0.084995

RESULTS OF REGRESSION FOR VARIABLE P1:
DIVISION #4, BETWEEN 57.00 AND 100.00 (n = 27).

Partial results of regression (step #1).
```



```
Variables in: resp.
Standard error of regression = 0.001706
R squared = 0.000209  r = 0.014465

              COEF        STD ERROR     T-VALUE     P-LEVEL
B0         0.047628
B1        -0.000002         0.000026  -0.072332   0.942913

Variables not in model:
```

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.463758	0.882483	0.215026	6.576015	0.017018	0.382330
S'_(n-1)	0.397583	0.606011	0.158039	4.506013	0.044287	0.327775

(S'_(n-10))^2	0.114356	0.941429	0.003498	0.278262	0.603372	0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum[w_i, (S'_(i-n)]^2)
Standard error of regression = 0.000704
R squared = 0.769488 r = 0.877204

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.014903			
B1	0.000045	0.000014	3.281787	0.003558
B2	0.001327	0.000272	4.885629	0.000079
B3	-0.000157	0.000086	-1.835706	0.080603

RESULTS OF REGRESSION FOR VARIABLE P2:
DIVISION #3, BETWEEN 85.00 AND 100.00 (n = 9).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.001045
R squared = 0.281283 r = 0.530361

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.030287			
B1	-0.000126	0.000076	-1.655168	0.141864

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.046643	0.796745	0.001564	0.013082	0.912671	0.000000
S'_(n-1)	0.454870	0.983344	0.148707	1.565316	0.257461	0.000000
S'_(n-2)	0.076980	0.502647	0.004259	0.035767	0.856232	0.000000
S'_(n-3)	0.521670	0.900427	0.195592	2.243344	0.184839	0.000000
S'_(n-4)	0.279690	0.982248	0.056223	0.509192	0.502288	0.000000
S'_(n-5)	0.313352	0.842180	0.070570	0.653281	0.449792	0.000000
S'_(n-6)	0.694165	0.997128	0.346325	5.580005	0.056115	1.000000
S'_(n-7)	0.614454	0.674430	0.271354	3.639379	0.105040	0.000000
S'_(n-8)	0.341318	0.998294	0.083729	0.791158	0.407995	0.000000
S'_(n-9)	0.353967	0.824316	0.090050	0.859438	0.389665	0.000000
S'_(n-10)	0.384532	0.998808	0.106273	1.041137	0.346923	0.000000

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.000812
R squared = 0.627608 r = 0.792217

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.028905			
B1	-0.000119	0.000059	-1.999203	0.092528
B2	0.000699	0.000296	2.362203	0.056115

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.206640	0.750937	0.015901	0.223024	0.656638	0.000000
(S'_(n-1))^2	0.206394	0.916989	0.015863	0.222470	0.657029	0.000000
(S'_(n-2))^2	0.288719	0.136673	0.031042	0.454697	0.530026	0.000000
(S'_(n-3))^2	0.624191	0.902384	0.145089	3.191544	0.134070	1.000000
(S'_(n-4))^2	0.569046	0.875838	0.120585	2.394402	0.182445	0.000000
(S'_(n-5))^2	0.306217	0.755166	0.034919	0.517355	0.504177	0.000000
(S'_(n-6))^2	0.468362	0.646435	0.081689	1.405024	0.289144	0.000000
(S'_(n-7))^2	0.311105	0.235807	0.036042	0.535789	0.497035	0.000000
(S'_(n-8))^2	0.029406	0.859800	0.000322	0.004327	0.950101	0.000000
(S'_(n-9))^2	0.322957	0.961888	0.038841	0.582233	0.479871	0.000000
(S'_(n-10))^2	0.217974	0.935060	0.017693	0.249414	0.638683	0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum[w_i, (S'_(i-n)]^2)
Standard error of regression = 0.000695
R squared = 0.772697 r = 0.879032

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.032614			
B1	-0.000148	0.000053	-2.776415	0.039067
B2	0.000680	0.000254	2.683735	0.043625
B3	-0.000340	0.000190	-1.786489	0.134070

OVERALL REGRESSION FOR P2:
REGRESSION EQUATION = 1/P2 = b0 + b1 (phi) + b2 SUM(v S') + b3 SUM (w S'^2)
R squared = 0.790371, r = 0.889028, p = 0.000000.

Results of detrending for pp :
Division #1, between 0.00 and 20.00 (n = 14).
Detrending equation: PP = b0 + b1 (PHI)
Standard error of regression = 0.775188
R squared = 0.494326 r = 0.703083

my2

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.032550	0.606645	0.000363	0.026516	0.871955	0.000000
(S'_(n-1))^2	0.433265	0.857835	0.064241	5.777517	0.023973	0.550955
(S'_(n-2))^2	0.233421	0.513699	0.018646	1.440625	0.241289	0.000000
(S'_(n-3))^2	0.082956	0.920683	0.002355	0.173234	0.680805	0.000000
(S'_(n-4))^2	0.132486	0.974339	0.006007	0.446653	0.510053	0.000000

(S'_(n-5))^2	0.353124	0.646135	0.042674	3.561530	0.070797	0.449045
(S'_(n-6))^2	0.051608	0.826602	0.000911	0.066761	0.798227	0.000000
(S'_(n-7))^2	0.172568	0.752247	0.010191	0.767345	0.389379	0.000000
(S'_(n-8))^2	0.216724	0.984152	0.016074	1.232099	0.277562	0.000000
(S'_(n-9))^2	0.070075	0.916701	0.001680	0.123369	0.728352	0.000000
(S'_(n-10))^2	0.024026	0.692951	0.000198	0.014440	0.905313	0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum[w_i, (S'_(i-n))^2)
Standard error of regression = 0.000681
R squared = 0.742843 r = 0.861883

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.017900			
B1	-0.000020	0.000010	-1.947168	0.062831
B2	0.001302	0.000182	7.155190	0.000000
B3	0.000207	0.000072	2.875711	0.008123

RESULTS OF REGRESSION FOR VARIABLE P2:
DIVISION #2, BETWEEN 46.00 AND 85.00 (n = 25).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.000999
R squared = 0.491787 r = 0.701275

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.012618			
B1	0.000077	0.000016	4.717693	0.000094

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.362885	0.748627	0.066924	3.336440	0.081362	0.141001
S'_(n-1)	0.366639	0.321083	0.068316	3.416613	0.078030	0.142460
S'_(n-2)	0.485103	0.995113	0.119595	6.770380	0.016273	0.188490
S'_(n-3)	0.585942	0.470648	0.174484	11.502257	0.002624	0.227672
S'_(n-4)	0.354020	0.978067	0.063694	3.152350	0.089655	0.137557
S'_(n-5)	0.419039	0.605276	0.089239	4.685861	0.041533	0.162820
S'_(n-6)	0.212771	0.513697	0.023008	1.043201	0.318179	0.000000
S'_(n-7)	0.035963	0.830146	0.000654	0.028332	0.867868	0.000000
S'_(n-8)	0.001659	0.622536	0.000001	0.000061	0.993861	0.000000
S'_(n-9)	0.110808	0.950716	0.006240	0.273481	0.606234	0.000000
S'_(n-10)	0.106864	0.344732	0.005804	0.254139	0.619187	0.000000

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.000741
R squared = 0.732498 r = 0.855861

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.013955			
B1	0.000055	0.000013	4.236859	0.000338

B2	0.001040	0.000234	4.449340	0.000201

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.337139	0.626124	0.030405	2.693016	0.115682	0.000000
(S'_(n-1))^2	0.003178	0.906801	0.000003	0.000212	0.988519	0.000000
(S'_(n-2))^2	0.194171	0.909146	0.010085	0.822771	0.374662	0.000000
(S'_(n-3))^2	0.069827	0.737421	0.001304	0.102892	0.751556	0.000000
(S'_(n-4))^2	0.371858	0.648749	0.036990	3.369818	0.080603	1.000000
(S'_(n-5))^2	0.229709	0.827232	0.014115	1.169819	0.291703	0.000000
(S'_(n-6))^2	0.076065	0.976881	0.001548	0.122210	0.730131	0.000000
(S'_(n-7))^2	0.294046	0.851918	0.023129	1.987583	0.173233	0.000000
(S'_(n-8))^2	0.278696	0.900691	0.020777	1.768459	0.197837	0.000000
(S'_(n-9))^2	0.270388	0.881585	0.019557	1.656401	0.212096	0.000000

my2

```
Standard error of regression = 1.079553
R squared = 0.031283  r = 0.176871

               COEF        STD ERROR     T-VALUE     P-LEVEL
B0          2.906007         7.799469    0.372590    0.724725
B1         -0.075029         0.186718   -0.401831    0.704409


Results of detrending for p1 :
Division #3, between 45.00 and 57.00 (n = 7).
Detrending equation: P1 = b0 + b1 (PHI)
Standard error of regression = 0.449945
R squared = 0.772339  r = 0.878828

               COEF        STD ERROR     T-VALUE     P-LEVEL
B0        -11.703868         2.662455   -4.395894    0.004589
B1          0.242848         0.053827    4.511647    0.004053


Results of detrending for p1 :
Division #4, between 57.00 and 100.00 (n = 27).
Detrending equation: P1 = b0 + b1 (PHI)
Standard error of regression = 0.869683
R squared = 0.010869  r = 0.104255

               COEF        STD ERROR     T-VALUE     P-LEVEL
B0          0.940162         0.943838    0.996105    0.327166
B1         -0.006771         0.011792   -0.574157    0.570142


Overall detrending for p1:
R squared = 0.270775, r = 0.520360, p = 0.000002.

Results of detrending for p2 :
Division #1, between 0.00 and 46.00 (n = 29).
Detrending equation: P2 = b0 + b1 (PHI)
Standard error of regression = 4.378684
R squared = 0.062652  r = 0.250304
```



```
               COEF        STD ERROR     T-VALUE     P-LEVEL
B0         -0.526166         1.587828   -0.331375    0.742591
B1          0.085376         0.059311    1.439454    0.160044


Results of detrending for p2 :
Division #2, between 46.00 and 85.00 (n = 25).
Detrending equation: P2 = b0 + b1 (PHI)
Standard error of regression = 3.189843
R squared = 0.505546  r = 0.711018

               COEF        STD ERROR     T-VALUE     P-LEVEL
B0         16.152286         3.298546    4.896790    0.000044
B1         -0.259233         0.050279   -5.155897    0.000022


Results of detrending for p2 :
Division #3, between 85.00 and 100.00 (n = 9).
Detrending equation: P2 = b0 + b1 (PHI)
Standard error of regression = 3.811474
R squared = 0.188845  r = 0.434563

               COEF        STD ERROR     T-VALUE     P-LEVEL
B0         -35.902595        21.761606   -1.649814    0.129995
B1          0.356577         0.233696    1.525812    0.158042


Overall detrending for p2:
R squared = 0.339173, r = 0.582385, p = 0.000000.

Results of linear model for pp :
Linear model equation: PP = b0 + b1 (I_n-1) + b2 (D_n)
Standard error of linear model = 0.806274
R squared = 0.160533  r = 0.400666

               COEF        STD ERROR     T-VALUE           P
B0         84.979835         5.655307   15.026564    0.000000
B1          0.259646         2.884945    0.090000    0.928548
B2         -0.291453         0.084729   -3.439815    0.000992

Overall results of linear modelling of pp
   after retrending: R-squared = 0.650710, r = 0.806666.


Results of linear model for int :
Linear model equation: INT = b0 + b1 (S_n) + ... + b(1+m) (S_n-m)
Standard error of linear model = 0.027965
R squared = 0.368228  r = 0.606818

               COEF        STD ERROR     T-VALUE           P
B0         -2.174550         0.913193   -2.381259    0.020239
```

my2

B1	0.010612	0.003769	2.815581	0.006464
B2	0.005001	0.003994	1.252213	0.215049
B3	0.001636	0.003993	0.409668	0.683418
B4	-0.001801	0.003868	-0.465718	0.642999
B5	0.001075	0.003875	0.277364	0.782394

B6	0.002436	0.004215	0.577821	0.565412
B7	-0.000755	0.003926	-0.192286	0.848127
B8	0.003091	0.003862	0.800144	0.426587
B9	0.006391	0.004260	1.500302	0.138454
B10	0.000317	0.004323	0.073250	0.941835
B11	-0.000205	0.004296	-0.047804	0.962021

Overall results of linear modelling of int
after retrending: R-squared = 0.821893, r = 0.906583.

Results of linear model for p1 :
Linear model equation: P1 = b0 + b1 (S_n) + ... + b(1+m) (S_n-m)
Standard error of linear model = 0.613874
R squared = 0.385074 r = 0.620544

	COEF	STD ERROR	T-VALUE	P
B0	-60.774212	20.046029	-3.031733	0.003508
B1	0.124740	0.082733	1.507737	0.136543
B2	0.178131	0.087670	2.031835	0.046326
B3	0.146000	0.087651	1.665705	0.100660
B4	-0.057949	0.084912	-0.682463	0.497409
B5	0.054606	0.085057	0.641995	0.523170
B6	0.040596	0.092528	0.438741	0.662327
B7	-0.027828	0.086185	-0.322888	0.747832
B8	-0.065709	0.084787	-0.774988	0.441201
B9	0.248729	0.093511	2.659894	0.009867
B10	-0.022211	0.094890	-0.234071	0.815677
B11	0.001452	0.094296	0.015403	0.987759

Overall results of linear modelling of p1
after retrending: R-squared = 0.587785, r = 0.766672.

Results of linear model for p2 :
Linear model equation: P2 = b0 + b1 (S_n) + ... + b(1+m) (S_n-m)
Standard error of linear model = 2.956625
R squared = 0.380481 r = 0.616831

	COEF	STD ERROR	T-VALUE	P
B0	429.484351	96.548446	4.448382	0.000035
B1	-0.530882	0.398471	-1.332298	0.187487
B2	-0.411594	0.422248	-0.974770	0.333345
B3	-0.512577	0.422155	-1.214190	0.229136
B4	-0.012405	0.408964	-0.030333	0.975896
B5	-1.013800	0.409665	-2.474708	0.015995
B6	0.121682	0.445645	0.273047	0.785697
B7	-0.243607	0.415098	-0.586868	0.559357
B8	-0.304725	0.408364	-0.746208	0.458274
B9	0.313940	0.450379	0.697058	0.488291
B10	-0.272291	0.457023	-0.595794	0.553414
B11	0.031246	0.454161	0.068799	0.945364

Overall results of linear modelling of p2
after retrending: R-squared = 0.612385, r = 0.782550.

Results of linear model for diast :
Linear model equation: D_n+1 = b0 + b1(D) + b2(D') + b3(D'') + b4(PP) + b5(INT) + b6(P1) + b7(P2)
Standard error of linear model = 0.798894
R squared = 0.602520 r = 0.776221

	COEF	STD ERROR	T-VALUE	P
B0	46.819445	12.857620	3.641377	0.000544
B1	0.324476	0.120650	2.689404	0.009117
B2	-0.017534	0.016344	-1.072801	0.287389
B3	0.000612	0.000804	0.760215	0.449918
B4	-0.201060	0.143616	-1.399987	0.166346
B5	-1.321851	3.798043	-0.348035	0.728956
B6	0.571658	0.181128	3.156099	0.002438
B7	0.000536	0.035650	0.015044	0.988044

Results of linear model for ddiast :
Linear model equation: D'_n+1 = b0 + b1(D) + b2(D') + b3(D'') + b4(PP) + b5(INT) + b6(P1) + b7(P2)
Standard error of linear model = 13.585309

my2

R squared = 0.316481 r = 0.562567

	COEF	STD ERROR	T-VALUE	P
B0	570.145743	218.645665	2.607624	0.011333
B1	-7.094376	2.051668	-3.457858	0.000973
B2	0.378099	0.277936	1.360381	0.178482
B3	-0.017586	0.013679	-1.285628	0.203205
B4	-4.642496	2.442206	-1.900943	0.061814
B5	113.732650	64.586261	1.760942	0.083025
B6	-0.490046	3.080110	-0.159100	0.874091
B7	0.316345	0.606230	0.521824	0.603595

Results of linear model for dddiast :
Linear model equation: D''_n+1 = b0 + b1(D) + b2(D') + b3(D'') + b4(PP) + b5(INT) + b6(P1) + b7(P2)
Standard error of linear model = 274.150278
R squared = 0.215990 r = 0.464747

	COEF	STD ERROR	T-VALUE	P
B0	12157.836279	4412.249388	2.755474	0.007624
B1	-122.852422	41.402470	-2.967273	0.004222
B2	3.070196	5.608724	0.547397	0.586010
B3	-0.219831	0.276038	-0.796380	0.428755
B4	-123.967410	49.283499	-2.515394	0.014411
B5	1488.522268	1303.344811	1.142079	0.257676
B6	54.635841	62.156344	0.879007	0.382686
B7	11.201796	12.233665	0.915653	0.363286

Results of windkessel model for diast :
Overall results for diast:
R-squared = 0.878256, r = 0.937153.

NONLINEAR FORECAST RESULTS (In-sample, n = 53):

STEP	PP	INT	P1	P2	DIAST
0	-0.081956	0.075619	0.075041	0.246584	1.000000
1	-0.250006	0.025892	-0.155290	0.147031	-0.278118
2	-0.042271	0.094038	-0.111080	-0.042509	-0.313279

3	0.033748	0.032641	-0.092934	0.107436	0.229700
4	-0.061482	0.175662	-0.160293	0.212588	-0.060956
5	-0.134770	0.130918	-0.030144	0.146273	-0.004348
6	-0.129956	-0.152624	0.007987	0.110621	-0.074715
7	-0.100346	0.044146	0.083528	0.094311	0.129074
8	0.003099	-0.009820	-0.073356	0.234619	0.098544
9	-0.074736	0.025761	-0.004998	-0.106427	0.057994
10	-0.058991	-0.241157	0.059901	-0.221749	0.094100

NONLINEAR FORECAST RESULTS (Out-of-sample, n = 9):

STEP	PP	INT	P1	P2	DIAST
0	-0.216014	0.213928	-0.433799	0.337339	1.000000
1	0.201606	-0.262649	-0.607400	0.310548	-0.245650
2	0.450693	-0.459652	-0.457439	0.419738	0.097797
3	0.185611	-0.521754	-0.308455	0.442478	0.254571
4	-0.529526	-0.440248	0.146745	0.165049	0.205122
5	0.210573	-0.734409	-0.018790	0.670431	-0.008841
6	-0.180918	-0.408649	-0.012156	0.306948	0.306668
7	-0.061583	-0.306607	0.558026	0.026477	0.184561
8	0.167900	-0.153573	0.528099	-0.061121	0.232020
9	0.113230	-0.263877	0.525069	0.235866	-0.258534
10	0.587531	-0.231567	-0.070069	-0.415113	0.057407

LINEAR FORECAST RESULTS (In-sample, n = 53):

STEP	PP	INT	P1	P2	DIAST
0	-0.141910	-0.198368	0.131982	0.053206	1.000000
1	-0.059063	-0.216795	0.127106	0.071766	0.701441
2	-0.015278	-0.234995	0.118266	0.030711	0.611635
3	0.007979	-0.184859	0.009530	-0.014635	0.594348
4	0.015905	-0.124341	0.101260	-0.000338	0.553873
5	-0.000423	-0.101810	0.174117	0.000263	0.574518
6	-0.039108	-0.146149	0.021576	-0.024718	0.469148
7	-0.053856	-0.215329	-0.091117	-0.098002	0.375665
8	-0.114004	-0.242440	-0.010269	-0.186553	0.332709
9	-0.177963	-0.249146	-0.126931	-0.186576	0.293711
10	-0.164553	-0.228259	-0.016858	-0.158962	0.197479

LINEAR FORECAST RESULTS (Out-of-sample, n = 9):

STEP	PP	INT	P1	P2	DIAST
0	-0.045012	-0.109001	-0.652621	-0.329865	1.000000
1	-0.197939	-0.641800	-0.725342	0.128953	0.413047
2	-0.189345	-0.613022	-0.755125	-0.047331	-0.126676
3	-0.287062	-0.630349	-0.673071	-0.159067	0.387081
4	-0.261897	-0.575800	-0.607841	-0.299451	0.454089
5	-0.474536	-0.555516	-0.384230	-0.364562	0.428939
6	-0.459783	-0.413943	-0.331465	-0.226637	0.538952
7	-0.516304	-0.531663	-0.339921	-0.276318	0.179442

my2

```
8     -0.230266 -0.235426 -0.416350 -0.331215  0.345329
9     -0.251140 -0.192171 -0.305796 -0.255080  0.102530
10     0.087157  0.237685  0.147069 -0.270934  0.040030
```



```
Error analysis for long forecast into file nl16.00:
Errors in p1: 0
Errors in p2: 0
Errors in p5: 0
Post inflection adjustment in p5: 0
```


In-sample data for beats 1 through 90 (n = 90):

BEATNO	TIME	INT	DIAS	DIAS'	DIAS''	SYST	PP	P1	P2	P3	P4	P5	P6	RESP
AVG	94.590	1.430	56.07	-24.12	-140.15	113.13	57.06	19.09	70.83	851.45	95001.35	50.92	20.89	56.50
STDDEV	37.218	0.065	1.34	12.19	228.91	3.03	2.15	1.54	6.19	108.59	4238.26	1.90	14.75	28.99

Out-of-sample data for beats 91 through 145 (n = 55):

BEATNO	TIME	INT	DIAS	DIAS'	DIAS''	SYST	PP	P1	P2	P3	P4	P5	P6	RESP
AVG	199.049	1.462	54.87	-28.93	-216.21	108.34	53.47	18.83	59.98	751.61	90522.96	49.85	17.79	59.53
STDDEV	23.466	0.067	1.14	10.92	224.25	1.40	1.23	2.17	3.56	120.42	3420.65	0.80	15.68	28.12

```
Results of regression for p3 :
Regression equation: P3 = b0 + b1 (P1) + b2 (P1)^2
Standard error of regression = 63.355211
R squared = 0.667270  r = 0.816866
```

	COEF	STD ERROR	T-VALUE	P
B0	-413.070280	399.308630	-1.034464	0.303786

my2

B1	76.579846	44.992524	1.702057	0.092316
B2	-0.537676	1.266157	-0.424652	0.672139

Results of regression for p4 :
Regression equation: P4 = b0 + b1 (PP)
Standard error of regression = 2315.353826
R squared = 0.704912 r = 0.839590

	COEF	STD ERROR	T-VALUE	P
B0	356.286069	6532.337984	0.054542	0.956627
B1	1658.554900	114.392404	14.498820	0.000000

Results of regression for p5 :
Regression equation: P5 = b0 + b1 (P2) + b2 (P2)^2 + b3 (P2)^3
Standard error of regression = 1.455189
R squared = 0.432166 r = 0.657393

	COEF	STD ERROR	T-VALUE	P
B0	-409.810325	141.685386	-2.892397	0.004841
B1	20.148019	6.301113	3.197533	0.001940
B2	-0.294718	0.092919	-3.171778	0.002101
B3	0.001441	0.000454	3.170451	0.002109

Results of regression for p6 :
Regression equation: P6 = b0 + b1 (P1)
Standard error of regression = 10.041518
R squared = 0.541892 r = 0.736133

	COEF	STD ERROR	T-VALUE	P
B0	-113.684611	13.232727	-8.591170	0.000000
B1	7.050806	0.691075	10.202667	0.000000

Results of regression for pp :
Division #1, between 0.00 and 20.00 (n = 11).
Regression equation: PP = b0 + b1 (PHI) + b2 (I_n-1) + b3 (D)
Standard error of regression = 1.379942
R squared = 0.682973 r = 0.826422

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	-13.490247	30.784873	-0.438210	0.674438
B1	-0.042663	0.094857	-0.449766	0.666476
B2	-6.493025	11.861276	-0.547414	0.601104
B3	1.414524	0.393897	3.591102	0.008844

Results of regression for pp :
Division #2, between 20.00 and 70.00 (n = 47).
Regression equation: PP = b0 + b1 (PHI) + b2 (I_n-1) + b3 (D)
Standard error of regression = 1.664093
R squared = 0.378875 r = 0.615528

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	16.616349	14.760148	1.125758	0.266512
B1	0.062587	0.016905	3.702285	0.000604
B2	3.936928	4.866055	0.809060	0.422935
B3	0.570763	0.183194	3.115626	0.003265

Results of regression for pp :
Division #3, between 70.00 and 100.00 (n = 31).
Regression equation: PP = b0 + b1 (PHI) + b2 (I_n-1) + b3 (D)
Standard error of regression = 1.591044
R squared = 0.392102 r = 0.626180

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	-14.956386	18.915389	-0.790699	0.436010
B1	0.010579	0.033817	0.312839	0.756807
B2	5.109479	5.405677	0.945206	0.352936
B3	1.148287	0.275700	4.164983	0.000286

Overall regression for pp:
R squared = 0.498719, r = 0.706201, p = 0.000000.

RESULTS OF REGRESSION FOR VARIABLE INT:
DIVISION #1, BETWEEN 0.00 AND 26.00 (n = 13).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.046308
R squared = 0.073417 r = 0.270955

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	1.404373			
B1	-0.002295	0.002458	-0.933581	0.370560

my2

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.060142	0.998067	0.003351	0.036301	0.852707	0.000000
S'_(n-1)	0.322625	0.959317	0.096445	1.161801	0.306406	0.000000
S'_(n-2)	0.388399	0.782311	0.139779	1.776538	0.212145	0.000000
S'_(n-3)	0.228752	0.730219	0.048486	0.552166	0.474529	0.000000
S'_(n-4)	0.240415	0.888841	0.053556	0.613452	0.451642	0.000000
S'_(n-5)	0.154322	0.860821	0.022067	0.243963	0.632027	0.000000
S'_(n-6)	0.166445	0.863490	0.025670	0.284933	0.605148	0.000000
S'_(n-7)	0.437473	0.912597	0.177332	2.366795	0.154960	0.000000
S'_(n-8)	0.445319	0.844351	0.183749	2.473629	0.146846	1.000000
S'_(n-9)	0.150493	0.803984	0.020985	0.231730	0.640604	0.000000
S'_(n-10)	0.330535	0.841739	0.101233	1.226541	0.294008	0.000000

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.043486
R squared = 0.257166 r = 0.507116

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	1.378359			
B1	-0.000736	0.002512	-0.293013	0.775503
B2	-0.007411	0.004712	-1.572777	0.146846

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.201686	0.321067	0.030217	0.381620	0.552046	0.000000
(S'_(n-1))^2	0.387392	0.344468	0.111479	1.589135	0.239150	0.000000
(S'_(n-2))^2	0.399820	0.720953	0.118747	1.712453	0.223096	0.000000
(S'_(n-3))^2	0.370328	0.230994	0.101874	1.430459	0.262248	0.000000
(S'_(n-4))^2	0.600793	0.501871	0.268127	5.083452	0.050617	0.324808
(S'_(n-5))^2	0.454371	0.647389	0.153360	2.341480	0.160326	0.000000
(S'_(n-6))^2	0.641893	0.544386	0.306067	6.306803	0.033238	0.347028
(S'_(n-7))^2	0.607000	0.404405	0.273697	5.250638	0.047663	0.328164
(S'_(n-8))^2	0.205346	0.492676	0.031323	0.396209	0.544699	0.000000
(S'_(n-9))^2	0.483115	0.894728	0.173378	2.740160	0.132239	0.000000
(S'_(n-10))^2	0.425003	0.455217	0.134177	1.984021	0.192564	0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum[w_i, (S'_(i-n))^2]
Standard error of regression = 0.029487
R squared = 0.692614 r = 0.832235

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	1.295404			
B1	0.000639	0.001746	0.365780	0.722979
B2	0.004537	0.004626	0.980569	0.352427
B3	0.007406	0.002074	3.570652	0.006018

RESULTS OF REGRESSION FOR VARIABLE INT:
DIVISION #2, BETWEEN 26.00 AND 65.00 (n = 34).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.052774
R squared = 0.417148 r = 0.645870

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	1.274280			
B1	0.003326	0.000695	4.785646	0.000037

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.181436	0.853045	0.019187	1.055228	0.312255	0.000000
S'_(n-1)	0.255590	0.999669	0.038076	2.166658	0.151113	0.000000
S'_(n-2)	0.128051	0.953178	0.009557	0.516780	0.477603	0.000000
S'_(n-3)	0.109150	0.990712	0.006944	0.373777	0.545410	0.000000
S'_(n-4)	0.203295	0.957971	0.024089	1.336432	0.256496	0.000000
S'_(n-5)	0.042391	0.964502	0.001047	0.055807	0.814803	0.000000
S'_(n-6)	0.129368	0.994203	0.009755	0.527652	0.473045	0.000000
S'_(n-7)	0.182127	0.977833	0.019333	1.063561	0.310384	0.000000
S'_(n-8)	0.281179	0.965345	0.046081	2.661323	0.112935	1.000000
S'_(n-9)	0.219916	0.988415	0.028188	1.575443	0.218798	0.000000

my2

S'_(n-10)	0.194086	0.998927	0.021956	1.213462	0.279127	0.000000

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.051455
R squared = 0.463229 r = 0.680609

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	1.284938			
B1	0.003116	0.000690	4.518808	0.000085
B2	-0.006318	0.003873	-1.631356	0.112935

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.119702	0.798618	0.007691	0.436109	0.514046	0.000000
(S'_(n-1))^2	0.107408	0.473702	0.006192	0.350133	0.558471	0.000000
(S'_(n-2))^2	0.067645	0.799920	0.002456	0.137908	0.712979	0.000000
(S'_(n-3))^2	0.110998	0.964038	0.006613	0.374230	0.545316	0.000000
(S'_(n-4))^2	0.076597	0.858265	0.003149	0.177052	0.676919	0.000000
(S'_(n-5))^2	0.175089	0.875358	0.016455	0.948774	0.337821	0.000000
(S'_(n-6))^2	0.210992	0.927261	0.023896	1.397748	0.246387	0.489656
(S'_(n-7))^2	0.037462	0.974325	0.000753	0.042161	0.838700	0.000000
(S'_(n-8))^2	0.219906	0.995579	0.025957	1.524477	0.226527	0.510344
(S'_(n-9))^2	0.148260	0.987002	0.011799	0.674251	0.418051	0.000000
(S'_(n-10))^2	0.039218	0.997175	0.000826	0.046212	0.831246	0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum[w_i, (S'_(i-n)]^2]
Standard error of regression = 0.050519
R squared = 0.499264 r = 0.706586

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	1.267809			
B1	0.003147	0.000677	4.646150	0.000063
B2	-0.005451	0.003848	-1.416436	0.166948
B3	0.002802	0.001907	1.469324	0.152154

RESULTS OF REGRESSION FOR VARIABLE INT:
DIVISION #3, BETWEEN 65.00 AND 90.00 (n = 16).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.042975
R squared = 0.311679 r = 0.558282

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	1.732961			
B1	-0.003452	0.001371	-2.517803	0.024605

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.196657	0.968594	0.026620	0.522989	0.482379	0.000000
S'_(n-1)	0.216650	0.999969	0.032308	0.640235	0.438004	0.000000
S'_(n-2)	0.115218	0.987914	0.009138	0.174898	0.682621	0.000000
S'_(n-3)	0.084524	0.970921	0.004918	0.093544	0.764562	0.000000
S'_(n-4)	0.256503	0.996321	0.045287	0.915558	0.356101	0.508095
S'_(n-5)	0.248330	0.980532	0.042447	0.854369	0.372159	0.491905
S'_(n-6)	0.035713	0.994651	0.000878	0.016601	0.899451	0.000000
S'_(n-7)	0.076397	0.970046	0.004017	0.076320	0.786690	0.000000
S'_(n-8)	0.072904	0.992918	0.003658	0.069463	0.796251	0.000000
S'_(n-9)	0.060113	0.746193	0.002487	0.047147	0.831475	0.000000
S'_(n-10)	0.135051	0.854236	0.012554	0.241508	0.631312	0.000000

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.042987
R squared = 0.360483 r = 0.600402

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	1.729937			
B1	-0.003387	0.001373	-2.466779	0.028306
B2	-0.004217	0.004234	-0.996034	0.337413

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.423952	0.899431	0.114944	2.629428	0.130862	0.000000
(S'_(n-1))^2	0.320137	0.905321	0.065543	1.370291	0.264484	0.000000
(S'_(n-2))^2	0.021653	0.617503	0.000300	0.005629	0.941431	0.000000
(S'_(n-3))^2	0.516521	0.725142	0.170619	4.366481	0.058616	0.293979
(S'_(n-4))^2	0.238427	0.949319	0.036355	0.723286	0.411716	0.000000
(S'_(n-5))^2	0.010259	0.987798	0.000067	0.001263	0.972235	0.000000
(S'_(n-6))^2	0.668761	0.662075	0.286018	9.709287	0.008921	0.380626

my2

(S'_(n-7))^2	0.571720	0.619095	0.209035	5.826993	0.032678	0.325395
(S'_(n-8))^2	0.452353	0.930396	0.130860	3.087182	0.104371	0.000000
(S'_(n-9))^2	0.378586	0.789288	0.091661	2.007690	0.181939	0.000000
(S'_(n-10))^2	0.271613	0.534698	0.047180	0.955797	0.347547	0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum(w_i, (S'_(i-n))^2)
Standard error of regression = 0.032934
R squared = 0.653500 r = 0.808393

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	1.667576			
B1	-0.003054	0.001057	-2.889452	0.013590
B2	0.003958	0.004136	0.956807	0.357545
B3	0.004357	0.001368	3.185554	0.007840

RESULTS OF REGRESSION FOR VARIABLE INT:
DIVISION #4, BETWEEN 90.00 AND 100.00 (n = 17).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.046519
R squared = 0.006982 r = 0.083558

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	1.624710			
B1	-0.001738	0.005353	-0.324753	0.749853

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.086619	0.938310	0.007450	0.105833	0.749750	0.000000
S'_(n-1)	0.162626	0.894357	0.026263	0.380319	0.547331	0.000000
S'_(n-2)	0.238548	0.906061	0.056508	0.844746	0.373608	0.000000
S'_(n-3)	0.055226	0.833432	0.003029	0.042830	0.839025	0.000000
S'_(n-4)	0.121818	0.999287	0.014736	0.210885	0.653124	0.000000
S'_(n-5)	0.295913	0.995592	0.086953	1.343549	0.265798	0.000000
S'_(n-6)	0.306859	0.709534	0.093505	1.455306	0.247669	1.000000
S'_(n-7)	0.001018	0.957990	0.000001	0.000014	0.997016	0.000000
S'_(n-8)	0.085197	0.962201	0.007208	0.102363	0.753737	0.000000
S'_(n-9)	0.144140	0.991501	0.020631	0.297042	0.594320	0.000000
S'_(n-10)	0.034654	0.999756	0.001193	0.016833	0.898617	0.000000

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.045829
R squared = 0.100487 r = 0.316996

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	1.238065			
B1	0.002332	0.006260	0.372494	0.715103
B2	-0.006312	0.005232	-1.206361	0.247669

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.122379	0.450857	0.013472	0.197658	0.663930	0.000000
(S'_(n-1))^2	0.049983	0.720234	0.002247	0.032559	0.859588	0.000000
(S'_(n-2))^2	0.310821	0.653743	0.086902	1.390239	0.259495	0.000000
(S'_(n-3))^2	0.250518	0.824363	0.056453	0.870506	0.367821	0.000000
(S'_(n-4))^2	0.210946	0.961997	0.040027	0.605416	0.450449	0.000000
(S'_(n-5))^2	0.014888	0.941866	0.000199	0.002882	0.958002	0.000000
(S'_(n-6))^2	0.435535	0.863248	0.170629	3.043255	0.104653	0.000000
(S'_(n-7))^2	0.375602	0.945646	0.126900	2.135230	0.167696	0.000000
(S'_(n-8))^2	0.512115	0.937452	0.235908	4.621424	0.050980	1.000000
(S'_(n-9))^2	0.366994	0.840480	0.121150	2.023421	0.178439	0.000000
(S'_(n-10))^2	0.218291	0.984721	0.042863	0.650455	0.434457	0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum(w_i, (S'_(i-n))^2)
Standard error of regression = 0.040849
R squared = 0.336395 r = 0.579995

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	1.350582			
B1	0.000950	0.005617	0.169052	0.868358
B2	-0.003737	0.004815	-0.776104	0.451577

my2

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B3          0.004002          0.001862    2.149750    0.050980

OVERALL REGRESSION FOR INT:
REGRESSION EQUATION = I_n = b0 + b1 (phi) + b2 SUM(v S') + b3 SUM (w S'^2)
R squared = 0.649368, r = 0.805834, p = 0.000000.

RESULTS OF REGRESSION FOR VARIABLE P1:
DIVISION #1, BETWEEN 0.00 AND 30.00 (n = 21).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.008338
R squared = 0.118209  r = 0.343816

                COEF        STD ERROR     T-VALUE     P-LEVEL
B0          0.048432
B1          0.000421          0.000264    1.595953    0.126998

Variables not in model:

           PARTIAL CORR     TOLERANCE          R-SQ       F-VALUE       P-LEVEL    NEW WEIGHT
S'_(n-0 )      0.076764      0.995042      0.005196      0.106698      0.747703      0.000000
S'_(n-1 )      0.207626      0.995545      0.038013      0.810913      0.379741      0.000000
S'_(n-2 )      0.434213      0.947255      0.166254      4.182273      0.055753      1.000000
S'_(n-3 )      0.045465      0.853085      0.001823      0.037284      0.849050      0.000000
S'_(n-4 )      0.182101      0.999998      0.029241      0.617366      0.442248      0.000000
S'_(n-5 )      0.190549      0.940455      0.032017      0.678188      0.420989      0.000000
S'_(n-6 )      0.202738      0.947758      0.036244      0.771564      0.391308      0.000000
S'_(n-7 )      0.079052      0.975891      0.005510      0.113192      0.740429      0.000000
S'_(n-8 )      0.032881      0.875362      0.000953      0.019482      0.890543      0.000000



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S'_(n-9 )      0.320069      0.938350      0.090334      2.054464      0.168903      0.000000
S'_(n-10)      0.184614      0.939906      0.030053      0.635126      0.435868      0.000000

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.007717
R squared = 0.284463  r = 0.533351

                COEF        STD ERROR     T-VALUE     P-LEVEL
B0          0.050513
B1          0.000303          0.000251    1.208666    0.242430
B2          0.001282          0.000627    2.045061    0.055753

Variables not in model:

              PARTIAL CORR     TOLERANCE          R-SQ       F-VALUE       P-LEVEL    NEW WEIGHT
(S'_(n-0 ))^2      0.471034      0.451162      0.158759      4.847347      0.041787      0.291706
(S'_(n-1 ))^2      0.427182      0.498993      0.130575      3.794718      0.068121      0.264549
(S'_(n-2 ))^2      0.716543      0.890084      0.367381     17.938719      0.000557      0.443746
(S'_(n-3 ))^2      0.207851      0.510233      0.030913      0.767593      0.393174      0.000000
(S'_(n-4 ))^2      0.120538      0.411775      0.010396      0.250644      0.623042      0.000000
(S'_(n-5 ))^2      0.208580      0.733739      0.031130      0.773239      0.391478      0.000000
(S'_(n-6 ))^2      0.010215      0.682944      0.000075      0.001774      0.966894      0.000000
(S'_(n-7 ))^2      0.073087      0.541965      0.003822      0.091297      0.766200      0.000000
(S'_(n-8 ))^2      0.210794      0.631034      0.031794      0.790505      0.386356      0.000000
(S'_(n-9 ))^2      0.028367      0.871529      0.000576      0.013690      0.908227      0.000000
(S'_(n-10))^2      0.157616      0.779720      0.017776      0.433084      0.519293      0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum[w_i, [S'_(i-n)]^2)
Standard error of regression = 0.006054
R squared = 0.584112  r = 0.764272

                COEF        STD ERROR     T-VALUE     P-LEVEL
B0          0.040712
B1          0.000473          0.000203    2.330947    0.032323
B2          0.002331          0.000576    4.047525    0.000837
B3          0.000766          0.000219    3.499793    0.002745

RESULTS OF REGRESSION FOR VARIABLE P1:
DIVISION #2, BETWEEN 30.00 AND 60.00 (n = 20).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.003052
R squared = 0.235925  r = 0.485721

                COEF        STD ERROR     T-VALUE     P-LEVEL
B0          0.058671
B1         -0.000180          0.000076   -2.357518    0.029918

Variables not in model:
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my2

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.099935	0.961399	0.007631	0.171490	0.683968	0.000000
S'_(n-1)	0.588989	0.998424	0.265064	9.030029	0.007969	0.150964
S'_(n-2)	0.571292	0.890882	0.249375	8.236587	0.010617	0.146428
S'_(n-3)	0.538358	0.993324	0.221452	6.937921	0.017410	0.137987
S'_(n-4)	0.580160	0.977496	0.257177	8.625006	0.009214	0.148701
S'_(n-5)	0.377616	0.969586	0.108952	2.827244	0.110955	0.000000
S'_(n-6)	0.380871	0.990559	0.110839	2.884497	0.107662	0.000000
S'_(n-7)	0.635614	0.991888	0.308690	11.523745	0.003447	0.162914
S'_(n-8)	0.404796	0.998005	0.125201	3.331511	0.085586	0.103753
S'_(n-9)	0.316335	0.995442	0.076460	1.890318	0.187018	0.000000
S'_(n-10)	0.582313	0.937448	0.259089	8.722054	0.008897	0.149253

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.002315
R squared = 0.584683 r = 0.764646

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.057485			
B1	-0.000158	0.000058	-2.718643	0.014595
B2	0.000876	0.000232	3.778304	0.001500

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.162822	0.722266	0.011011	0.435730	0.518581	0.000000
(S'_(n-1))^2	0.321470	0.399115	0.042920	1.844060	0.193319	0.000000
(S'_(n-2))^2	0.570262	0.695757	0.135061	7.710695	0.013470	0.270283
(S'_(n-3))^2	0.197791	0.808957	0.016248	0.651428	0.431438	0.000000
(S'_(n-4))^2	0.262851	0.891803	0.028695	1.187499	0.291975	0.000000
(S'_(n-5))^2	0.464045	0.737936	0.089433	4.390928	0.052393	0.219940
(S'_(n-6))^2	0.276794	0.791023	0.031819	1.327544	0.266168	0.000000
(S'_(n-7))^2	0.209972	0.939023	0.018311	0.737947	0.403006	0.000000
(S'_(n-8))^2	0.560485	0.903153	0.130469	7.328493	0.015544	0.265649
(S'_(n-9))^2	0.515076	0.840167	0.110185	5.777692	0.028708	0.244127
(S'_(n-10))^2	0.239199	0.920856	0.023763	0.971015	0.339095	0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum[w_i, [S'_(i-n)]^2]
Standard error of regression = 0.001808
R squared = 0.761645 r = 0.872723

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.053807			
B1	-0.000119	0.000047	-2.541859	0.021758
B2	0.001248	0.000211	5.920804	0.000022
B3	0.000262	0.000076	3.446572	0.003317

RESULTS OF REGRESSION FOR VARIABLE P1:
DIVISION #3, BETWEEN 60.00 AND 100.00 (n = 39).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.002000
R squared = 0.173048 r = 0.415990

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.045899			
B1	0.000068	0.000024	2.782553	0.008441

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.137202	0.976510	0.015567	0.690681	0.411411	0.000000
S'_(n-1)	0.442548	0.907908	0.161958	8.767702	0.005399	0.259555
S'_(n-2)	0.086132	0.978873	0.006135	0.269072	0.607129	0.000000
S'_(n-3)	0.280482	0.991824	0.065056	3.073952	0.088068	0.164503
S'_(n-4)	0.391973	0.987242	0.127055	6.535223	0.014939	0.229892
S'_(n-5)	0.172230	0.990104	0.024530	1.100515	0.301145	0.000000
S'_(n-6)	0.312370	0.996223	0.080690	3.892522	0.056218	0.183206
S'_(n-7)	0.277654	0.999252	0.063751	3.007123	0.091456	0.162844
S'_(n-8)	0.171445	0.999027	0.024307	1.090204	0.303387	0.000000
S'_(n-9)	0.256718	0.981424	0.054499	2.539936	0.119743	0.000000
S'_(n-10)	0.240954	0.991441	0.048012	2.218939	0.145036	0.000000

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.001840

my2

R squared = 0.319008 r = 0.564808

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.046308			
B1	0.000061	0.000023	2.711129	0.010211
B2	0.000377	0.000136	2.777779	0.008638

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.241861	0.616238	0.039836	2.174586	0.149246	1.000000
(S'_(n-1))^2	0.087238	0.893801	0.005183	0.268407	0.607662	0.000000
(S'_(n-2))^2	0.028932	0.618459	0.000570	0.029321	0.865026	0.000000
(S'_(n-3))^2	0.215723	0.709299	0.031691	1.708268	0.199733	0.000000
(S'_(n-4))^2	0.157165	0.878979	0.016821	0.886430	0.352900	0.000000
(S'_(n-5))^2	0.140982	0.874268	0.013535	0.709769	0.405241	0.000000
(S'_(n-6))^2	0.018974	0.869915	0.000245	0.012605	0.911248	0.000000
(S'_(n-7))^2	0.089677	0.875234	0.005477	0.283750	0.597620	0.000000
(S'_(n-8))^2	0.153031	0.990313	0.015948	0.839303	0.365866	0.000000
(S'_(n-9))^2	0.015505	0.980434	0.000164	0.008416	0.927427	0.000000
(S'_(n-10))^2	0.080686	0.938414	0.004433	0.229350	0.634985	0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum(w_i, [S'_(i-n)]^2)
Standard error of regression = 0.001811
R squared = 0.358844 r = 0.599036

	COEF	STD ERROR	T-VALUE	P-LEVEL

B0	0.047749			
B1	0.000051	0.000023	2.169953	0.036883
B2	0.000243	0.000162	1.501350	0.142234
B3	-0.000070	0.000047	-1.474648	0.149246

OVERALL REGRESSION FOR P1:
REGRESSION EQUATION = 1/P1 = b0 + b1 (ph1) + b2 SUM(v S') + b3 SUM (w S'^2)
R squared = 0.686408, r = 0.828497, p = 0.000000.

RESULTS OF REGRESSION FOR VARIABLE P2:
DIVISION #1, BETWEEN 0.00 AND 30.00 (n = 21).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.001600
R squared = 0.053404 r = 0.231092

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.013577			
B1	0.000052	0.000051	1.035331	0.313513

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.661620	0.995042	0.414364	14.013690	0.001487	0.116461
S'_(n-1)	0.599131	0.995545	0.339789	10.079294	0.005245	0.105461
S'_(n-2)	0.343592	0.947255	0.111751	2.409439	0.138010	0.000000
S'_(n-3)	0.691041	0.853085	0.452035	16.452204	0.000741	0.121639
S'_(n-4)	0.505335	0.999998	0.241726	6.172858	0.023037	0.088951
S'_(n-5)	0.529704	0.940455	0.265602	7.020379	0.016303	0.093240
S'_(n-6)	0.518825	0.947758	0.254805	6.629857	0.019081	0.091325
S'_(n-7)	0.430129	0.975891	0.175130	4.086177	0.058361	0.075713
S'_(n-8)	0.597025	0.875362	0.337404	9.969377	0.005449	0.105090
S'_(n-9)	0.656783	0.938350	0.408328	13.654717	0.001656	0.115609
S'_(n-10)	0.491470	0.939906	0.228644	5.732391	0.027753	0.086510

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.001173
R squared = 0.518330 r = 0.719952

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.012549			
B1	0.000093	0.000038	2.416012	0.026539
B2	-0.000547	0.000131	-4.168252	0.000578

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.396135	0.281583	0.075585	3.164229	0.093154	0.287161
(S'_(n-1))^2	0.462790	0.406317	0.103161	4.633309	0.046014	0.335480
(S'_(n-2))^2	0.520561	0.722557	0.130525	6.319099	0.022309	0.377359
(S'_(n-3))^2	0.145842	0.290653	0.010245	0.369447	0.551340	0.000000
(S'_(n-4))^2	0.040872	0.467157	0.000805	0.028446	0.868055	0.000000

my2

(S'_(n-5))^2	0.155812	0.687173	0.011694	0.422984	0.524145	0.000000
(S'_(n-6))^2	0.147516	0.725417	0.010482	0.378167	0.546730	0.000000
(S'_(n-7))^2	0.227591	0.436069	0.024949	0.928663	0.348719	0.000000
(S'_(n-8))^2	0.009697	0.537469	0.000045	0.001599	0.968572	0.000000
(S'_(n-9))^2	0.034958	0.937679	0.000589	0.020801	0.887019	0.000000
(S'_(n-10))^2	0.230177	0.832489	0.025520	0.951074	0.343120	0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum[w_i, [S'_(i-n)]^2]
Standard error of regression = 0.000955
R squared = 0.698120 r = 0.835536

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.011120			
B1	0.000113	0.000032	3.545837	0.002484
B2	-0.000112	0.000173	-0.647801	0.525766
B3	0.000151	0.000047	3.181921	0.005456

RESULTS OF REGRESSION FOR VARIABLE P2:
DIVISION #2, BETWEEN 30.00 AND 90.00 (n = 42).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.001315
R squared = 0.004161 r = 0.064505

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.014720			
B1	-0.000005	0.000012	-0.408816	0.684855

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.639839	0.999942	0.407691	27.033934	0.000007	0.128903
S'_(n-1)	0.415118	0.956078	0.171606	8.119819	0.006958	0.083630
S'_(n-2)	0.536763	0.972113	0.286916	15.784117	0.000297	0.108137
S'_(n-3)	0.514323	0.942527	0.263428	14.027213	0.000582	0.103616
S'_(n-4)	0.484163	0.997790	0.233438	11.941352	0.001339	0.097540
S'_(n-5)	0.409184	0.995886	0.166735	7.842984	0.007897	0.082435
S'_(n-6)	0.478907	0.962938	0.228397	11.606746	0.001537	0.096481
S'_(n-7)	0.422859	0.999131	0.178066	8.492034	0.005880	0.085190
S'_(n-8)	0.449709	0.975926	0.201397	9.886796	0.003179	0.090599
S'_(n-9)	0.323382	0.995019	0.104141	4.554768	0.039170	0.065149
S'_(n-10)	0.289485	0.989352	0.083453	3.567208	0.066385	0.058320

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.001082
R squared = 0.342745 r = 0.585445

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.014880			
B1	-0.000006	0.000010	-0.592661	0.556829

B2	-0.000348	0.000078	-4.482281	0.000063

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.175786	0.862837	0.020310	1.211665	0.277927	0.000000
(S'_(n-1))^2	0.209851	0.561336	0.028944	1.750507	0.193719	0.000000
(S'_(n-2))^2	0.245830	0.558345	0.039719	2.444126	0.126256	0.000000
(S'_(n-3))^2	0.086224	0.821397	0.004886	0.284633	0.596788	0.000000
(S'_(n-4))^2	0.096166	0.814396	0.006078	0.354700	0.554995	0.000000
(S'_(n-5))^2	0.174430	0.825163	0.019997	1.192459	0.281709	0.000000
(S'_(n-6))^2	0.223294	0.806544	0.032771	1.994121	0.166048	0.000000
(S'_(n-7))^2	0.000522	0.944033	0.000000	0.000010	0.997448	0.000000
(S'_(n-8))^2	0.106179	0.967253	0.007410	0.433296	0.514345	0.000000
(S'_(n-9))^2	0.353498	0.893973	0.082131	5.426631	0.025246	0.544264
(S'_(n-10))^2	0.295999	0.981778	0.057586	3.649098	0.063668	0.455736

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum[w_i, [S'_(i-n)]^2]
Standard error of regression = 0.001020
R squared = 0.431209 r = 0.656665

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.014447			
B1	-0.000006	0.000010	-0.607902	0.546869
B2	-0.000303	0.000075	-4.024901	0.000262
B3	0.000065	0.000027	2.431064	0.019882

my2

RESULTS OF REGRESSION FOR VARIABLE P2:
DIVISION #3, BETWEEN 90.00 AND 100.00 (n = 17).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.001096
R squared = 0.118737 r = 0.344582

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.031017			
B1	-0.000179	0.000126	-1.421625	0.175593

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.846453	0.938310	0.631409	35.379596	0.000036	0.113620
S'_(n-1)	0.799003	0.894357	0.562604	24.717446	0.000205	0.107251
S'_(n-2)	0.688253	0.906061	0.417447	12.600371	0.003203	0.092384
S'_(n-3)	0.696226	0.833432	0.427175	13.170232	0.002736	0.093455
S'_(n-4)	0.681617	0.999287	0.409437	12.148768	0.003639	0.091494
S'_(n-5)	0.630874	0.995592	0.350744	9.255877	0.008782	0.084682
S'_(n-6)	0.719938	0.709534	0.456768	15.064356	0.001662	0.096638
S'_(n-7)	0.704908	0.957990	0.437896	13.827233	0.002292	0.094620
S'_(n-8)	0.550141	0.962201	0.266719	6.076148	0.027246	0.073846
S'_(n-9)	0.519424	0.991501	0.237766	5.172870	0.039206	0.069723
S'_(n-10)	0.613037	0.999756	0.331191	8.429225	0.011566	0.082288

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Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.000576
R squared = 0.772584 r = 0.878967

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.019915			
B1	-0.000060	0.000069	-0.877054	0.395259
B2	-0.000474	0.000075	-6.344410	0.000018

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.807919	0.195210	0.148442	24.435208	0.000269	0.198232
(S'_(n-1))^2	0.613324	0.699535	0.085546	7.838904	0.015035	0.150486
(S'_(n-2))^2	0.338360	0.444875	0.026036	1.680767	0.217364	0.000000
(S'_(n-3))^2	0.558887	0.497082	0.071035	5.905109	0.030328	0.137129
(S'_(n-4))^2	0.541650	0.851231	0.066720	5.397566	0.037024	0.132900
(S'_(n-5))^2	0.169798	0.850168	0.006557	0.385933	0.545185	0.000000
(S'_(n-6))^2	0.120231	0.748782	0.003287	0.190679	0.669517	0.000000
(S'_(n-7))^2	0.539914	0.859254	0.066293	5.348802	0.037755	0.132474
(S'_(n-8))^2	0.567206	0.972863	0.073165	6.166199	0.027445	0.139170
(S'_(n-9))^2	0.446725	0.840300	0.045384	3.241131	0.095047	0.109609
(S'_(n-10))^2	0.422576	0.998684	0.040610	2.826063	0.116599	0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum(w_i, (S'_(i-n))^2)
Standard error of regression = 0.000354
R squared = 0.920146 r = 0.959242

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.026986			
B1	-0.000143	0.000046	-3.128785	0.007991
B2	-0.000289	0.000059	-4.851880	0.000316
B3	0.000107	0.000022	4.901293	0.000289

OVERALL REGRESSION FOR P2:
REGRESSION EQUATION = 1/P2 = b0 + b1 (phi) + b2 SUM(v S') + b3 SUM (w S'^2)
R squared = 0.614095, r = 0.783642, p = 0.000000.

Results of detrending for pp :
Division #1, between 0.00 and 20.00 (n = 11).
Detrending equation: PP = b0 + b1 (PHI)
Standard error of regression = 2.156099
R squared = 0.004924 r = 0.070169

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	-1.567547	2.377916	-0.659210	0.526266
B1	-0.031050	0.147138	-0.211026	0.837568

Results of detrending for pp :
Division #2, between 20.00 and 70.00 (n = 47).

my2

Detrending equation: PP = b0 + b1 (PHI)
Standard error of regression = 1.806902
R squared = 0.233633 r = 0.483356

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	-2.842876	0.833113	-3.412355	0.001372
B1	0.064170	0.017325	3.703861	0.000578

Results of detrending for pp :
Division #3, between 70.00 and 100.00 (n = 31).
Detrending equation: PP = b0 + b1 (PHI)
Standard error of regression = 1.967504
R squared = 0.001536 r = 0.039195

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	-0.276575	3.704271	-0.074664	0.940995
B1	0.008704	0.041207	0.211233	0.834183

Overall detrending for pp:
R squared = 0.218169, r = 0.467085, p = 0.000003.

Results of detrending for int :
Division #1, between 0.00 and 26.00 (n = 13).
Detrending equation: INT = b0 + b1 (PHI)
Standard error of regression = 0.044121
R squared = 0.090644 r = 0.301071

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	-0.023158	0.040482	-0.572046	0.577050
B1	-0.002513	0.002207	-1.138346	0.275520

Results of detrending for int :
Division #2, between 26.00 and 65.00 (n = 34).
Detrending equation: INT = b0 + b1 (PHI)
Standard error of regression = 0.050561
R squared = 0.422887 r = 0.650297

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	-0.153470	0.029912	-5.130742	0.000010
B1	0.003285	0.000640	5.136089	0.000010

Results of detrending for int :
Division #3, between 65.00 and 90.00 (n = 16).
Detrending equation: INT = b0 + b1 (PHI)
Standard error of regression = 0.041572
R squared = 0.328751 r = 0.573368

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.307803	0.099896	3.081245	0.007603
B1	-0.003509	0.001295	-2.710424	0.016118

Results of detrending for int :
Division #4, between 90.00 and 100.00 (n = 17).
Detrending equation: INT = b0 + b1 (PHI)
Standard error of regression = 0.044326
R squared = 0.015597 r = 0.124888

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.273262	0.472161	0.578748	0.570349
B1	-0.002570	0.004952	-0.518991	0.610457

Overall detrending for int:
R squared = 0.516771, r = 0.718868, p = 0.000000.

Results of detrending for pl :
Division #1, between 0.00 and 30.00 (n = 21).
Detrending equation: Pl = b0 + b1 (PHI)
Standard error of regression = 1.821256
R squared = 0.188594 r = 0.434274

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	1.376639	1.261611	1.091175	0.287003
B1	-0.125824	0.055643	-2.261290	0.033969

Results of detrending for pl :
Division #2, between 30.00 and 60.00 (n = 20).
Detrending equation: Pl = b0 + b1 (PHI)
Standard error of regression = 1.096816
R squared = 0.221224 r = 0.470345

my2

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	-2.201677	1.289578	-1.707285	0.103248
B1	0.065455	0.027461	2.383556	0.027172

Results of detrending for p1 :
Division #3, between 60.00 and 100.00 (n = 39).
Detrending equation: P1 = b0 + b1 (PHI)
Standard error of regression = 0.722957
R squared = 0.198004 r = 0.444976

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	2.515351	0.692704	3.631208	0.000776
B1	-0.026332	0.008277	-3.181576	0.002791

Overall detrending for p1:
R squared = 0.417913, r = 0.646462, p = 0.000000.

Results of detrending for p2 :
Division #1, between 0.00 and 30.00 (n = 21).
Detrending equation: P2 = b0 + b1 (PHI)
Standard error of regression = 7.258698
R squared = 0.033323 r = 0.182545

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	3.158121	5.028208	0.628081	0.536417
B1	-0.193125	0.221767	-0.870846	0.393242

Results of detrending for p2 :
Division #2, between 30.00 and 90.00 (n = 42).
Detrending equation: P2 = b0 + b1 (PHI)
Standard error of regression = 6.031307
R squared = 0.001690 r = 0.041110

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	-1.234075	3.464110	-0.356246	0.723359
B1	0.015240	0.055841	0.272925	0.786188

Results of detrending for p2 :
Division #3, between 90.00 and 100.00 (n = 17).
Detrending equation: P2 = b0 + b1 (PHI)
Standard error of regression = 4.961817
R squared = 0.139275 r = 0.373195

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	-85.848050	52.853749	-1.624257	0.122716
B1	0.919471	0.554383	1.658548	0.115542

Overall detrending for p2:
R squared = 0.066873, r = 0.258598, p = 0.013855.

Results of linear model for pp :
Linear model equation: PP = b0 + b1 (I_n-1) + b2 (D_n)
Standard error of linear model = 1.623466
R squared = 0.247010 r = 0.497001

	COEF	STD ERROR	T-VALUE	P
B0	15.195909	10.497382	1.447590	0.151367
B1	2.004914	3.990462	0.502427	0.616652
B2	0.695589	0.132841	5.236251	0.000001

Overall results of linear modelling of pp
after retrending: R-squared = 0.435692, r = 0.660070.

Results of linear model for int :
Linear model equation: INT = b0 + b1 (S_n) + ... + b(1+m) (S_n-m)
Standard error of linear model = 0.044483
R squared = 0.167554 r = 0.409333

	COEF	STD ERROR	T-VALUE	P
B0	1.726840	0.276229	6.251474	0.000000
B1	0.011097	0.003548	3.127611	0.002449
B2	-0.004796	0.004062	-1.180708	0.241174
B3	-0.004680	0.004042	-1.157762	0.250364
B4	-0.000551	0.004174	-0.132023	0.895294
B5	-0.001541	0.004180	-0.368669	0.713336

B6	0.000097	0.004267	0.022795	0.981870
B7	-0.003135	0.004146	-0.756148	0.451754
B8	0.003284	0.004136	0.794039	0.429493
B9	-0.003048	0.004021	-0.757995	0.450653
B10	0.000550	0.004008	0.137309	0.891127
B11	0.000122	0.003599	0.033946	0.973003

Overall results of linear modelling of int
after retrending: R-squared = 0.580569, r = 0.761951.

Results of linear model for p1 :
Linear model equation: P1 = b0 + b1 (S_n) + ... + b(1+m) (S_n-m)
Standard error of linear model = 1.001267
R squared = 0.376244 r = 0.613387

	COEF	STD ERROR	T-VALUE	P
B0	25.564830	6.217613	4.111679	0.000094
B1	0.324163	0.079862	4.059065	0.000113
B2	-0.162629	0.091434	-1.778644	0.079050
B3	-0.238921	0.090986	-2.625907	0.010330
B4	-0.032808	0.093946	-0.349219	0.727831
B5	-0.137563	0.094083	-1.462152	0.147569
B6	-0.078844	0.096050	-0.820866	0.414132
B7	0.111132	0.093315	1.190938	0.237156
B8	-0.064030	0.093087	-0.687854	0.493510
B9	0.113949	0.090507	1.259009	0.211644
B10	0.054139	0.090215	0.600114	0.550105
B11	0.053632	0.081019	0.661973	0.509868

Overall results of linear modelling of p1
after retrending: R-squared = 0.645910, r = 0.803685.

Results of linear model for p2 :
Linear model equation: P2 = b0 + b1 (S_n) + ... + b(1+m) (S_n-m)
Standard error of linear model = 4.540043
R squared = 0.464620 r = 0.681630

	COEF	STD ERROR	T-VALUE	P
B0	-114.013895	28.192510	-4.044120	0.000119
B1	1.108405	0.362116	3.060908	0.002993
B2	-0.131181	0.414591	-0.316411	0.752504
B3	-0.156872	0.412558	-0.380242	0.704761
B4	0.131768	0.425980	0.309328	0.757866
B5	0.271616	0.426599	0.636700	0.526116
B6	-0.258289	0.435521	-0.593059	0.554794
B7	0.320088	0.423117	0.756500	0.451544
B8	0.113817	0.422085	0.269654	0.788113
B9	0.344040	0.410386	0.838334	0.404310
B10	-0.011097	0.409060	-0.027128	0.978425
B11	-0.104114	0.367362	-0.283409	0.777586

Overall results of linear modelling of p2
after retrending: R-squared = 0.506911, r = 0.711977.

Results of linear model for diast :
Linear model equation: D_n+1 = b0 + b1(D) + b2(D') + b3(D'') + b4(PP) + b5(INT) + b6(P1) + b7(P2)
Standard error of linear model = 0.941799
R squared = 0.551520 r = 0.742644

	COEF	STD ERROR	T-VALUE	P
B0	32.461911	5.824189	5.573636	0.000000
B1	0.501945	0.095424	5.260164	0.000001
B2	0.021733	0.022309	0.974175	0.332870
B3	-0.001045	0.001146	-0.912172	0.364385
B4	0.177435	0.083044	2.136646	0.035644
B5	-8.385796	2.538307	-3.303696	0.001422
B6	-0.128369	0.094153	-1.363409	0.176531
B7	0.001902	0.026249	0.072461	0.942414

Results of linear model for ddiast :
Linear model equation: D'_n+1 = b0 + b1(D) + b2(D') + b3(D'') + b4(PP) + b5(INT) + b6(P1) + b7(P2)
Standard error of linear model = 12.437879
R squared = 0.046967 r = 0.216718

	COEF	STD ERROR	T-VALUE	P
B0	-60.648214	76.917197	-0.788487	0.432714
B1	0.748573	1.260216	0.594003	0.554165
B2	0.056587	0.294625	0.192064	0.848173
B3	-0.008657	0.015132	-0.572082	0.568851
B4	-0.518827	1.096720	-0.473072	0.637435
B5	24.281815	33.522178	0.724351	0.470938
B6	-1.647715	1.243430	-1.325136	0.188852
B7	0.297803	0.346653	0.859081	0.392831

Results of linear model for dddiast :
Linear model equation: D''_n+1 = b0 + b1(D) + b2(D') + b3(D'') + b4(PP) + b5(INT) + b6(P1) + b7(P2)

my2

Standard error of linear model = 237.059705
R squared = 0.023572 r = 0.153532

	COEF	STD ERROR	T-VALUE	P
B0	-769.931384	1466.003018	-0.525191	0.600885
B1	21.656468	24.019086	0.901636	0.369924
B2	1.498906	5.615400	0.266928	0.790203
B3	-0.153971	0.288415	-0.533852	0.594906
B4	-2.889651	20.902934	-0.138241	0.890393
B5	-22.817514	638.915819	-0.035713	0.971599
B6	-15.138314	23.699156	-0.638770	0.524775
B7	-1.177960	6.607027	-0.178289	0.858941

Results of windkessel model for diast :
Overall results for diast:
R-squared = 0.915903, r = 0.957028.

NONLINEAR FORECAST RESULTS (In-sample, n = 70):

STEP	PP	INT	P1	P2	DIAST
0	0.696965	0.796998	0.742995	0.645248	1.000000
1	0.438151	0.784979	0.628811	0.377356	0.386529
2	0.220100	0.775204	0.602790	0.152308	-0.088866

3	0.190062	0.772779	0.445508	0.158930	-0.288229
4	0.089742	0.739014	0.461059	0.139379	-0.279030
5	0.023805	0.554130	0.341040	0.094398	-0.121485
6	0.097040	0.476468	0.435104	0.030591	-0.109992
7	0.066361	0.251471	0.393314	0.053574	-0.319259
8	0.148642	0.154735	0.412812	0.059434	-0.317356
9	0.151440	0.246057	0.373113	0.110225	-0.262659
10	0.277219	0.330409	0.362720	0.031610	-0.060880

NONLINEAR FORECAST RESULTS (Out-of-sample, n = 35):

STEP	PP	INT	P1	P2	DIAST
0	0.134958	0.740213	0.584620	0.083125	1.000000
1	0.625451	0.670610	0.206758	0.116616	0.290925
2	0.531219	0.662086	0.291437	0.076832	0.151738
3	0.650143	0.633766	0.662403	0.199755	-0.152725
4	0.719476	0.618269	0.608775	0.344246	-0.222134
5	0.689209	0.518790	0.590192	0.231113	-0.009608
6	0.433362	0.438935	0.657495	0.256070	-0.058868
7	0.390842	0.321982	0.629880	0.242449	-0.026674
8	0.519179	0.552961	0.536954	0.177399	-0.231135
9	0.478377	0.546456	0.491506	0.323624	-0.170232
10	0.609604	0.570219	0.456797	0.011490	-0.487829

LINEAR FORECAST RESULTS (In-sample, n = 70):

STEP	PP	INT	P1	P2	DIAST
0	0.667335	0.662718	0.708996	0.472739	1.000000
1	0.741525	0.672920	0.742890	0.511453	0.704342
2	0.722901	0.671876	0.694547	0.524728	0.603596
3	0.704204	0.668245	0.657872	0.486645	0.522503
4	0.664876	0.680481	0.587709	0.480971	0.469947
5	0.599412	0.685918	0.476906	0.464542	0.390946
6	0.549191	0.678126	0.433509	0.459596	0.395311
7	0.528874	0.668079	0.411195	0.422143	0.408853
8	0.495696	0.634589	0.401825	0.391424	0.377355
9	0.465469	0.619183	0.392412	0.427366	0.436073
10	0.447003	0.625850	0.341001	0.353080	0.409367

LINEAR FORECAST RESULTS (Out-of-sample, n = 35):

STEP	PP	INT	P1	P2	DIAST
0	0.256660	0.753644	0.684515	0.152067	1.000000
1	0.484212	0.696375	0.685744	0.504107	0.586601
2	0.423967	0.650864	0.559315	0.564719	0.236659
3	0.474103	0.688991	0.686442	0.563689	0.093560
4	0.511437	0.691992	0.703948	0.591221	-0.154660
5	0.554269	0.647446	0.701881	0.667306	-0.360126
6	0.572884	0.679376	0.681321	0.645421	-0.501088
7	0.544150	0.620163	0.788437	0.644046	-0.430619
8	0.554601	0.698298	0.727118	0.744481	-0.430726
9	0.543174	0.667900	0.722356	0.505863	-0.580531
10	0.551341	0.650039	0.712044	0.341908	-0.545725

my2

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Error analysis for long forecast into file n116.00:
Errors in p1: 0
Errors in p2: 0
Errors in p5: 0
Post inflection adjustment in p5: 4
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In-sample data for beats 81 through 170 (n = 89):
BEATNO       TIME   INT   DIAS  DIAS'   DIAS''   SYST     PP      P1      P2      P3          P4      P5      P6   RESP

AVG     1802.010 1.378  70.36 -32.06   -92.56 132.89  62.53   19.79   55.24 1025.18   102382.37   55.03   23.40  49.74
STDDEV    35.659 0.077   1.25  15.34   309.82   1.79   1.45    0.57    4.51   46.98     3515.68    3.81    8.20  28.87


Out-of-sample data for beats 171 through 212 (n = 42):
BEATNO       TIME   INT   DIAS  DIAS'   DIAS''   SYST     PP      P1      P2      P3          P4      P5      P6   RESP

AVG     1891.664 1.355  71.31 -41.97  -186.74 133.87  62.57   20.04   55.25 1055.72   103535.52   55.05   23.01  49.52
STDDEV    16.535 0.079   1.27  21.54   388.27   1.94   1.58    0.75    4.99   42.55     3931.36    4.44    8.42  29.56


Results of regression for p3 :
Regression equation: P3 = b0 + b1 (P1) + b2 (P1)^2
Standard error of regression = 46.217989
R squared = 0.054052  r = 0.232492

               COEF        STD ERROR     T-VALUE          P
B0      2331.082106      3577.868425   0.651528   0.516443
B1      -149.899754       359.625075  -0.416822   0.677847
B2         4.236758         9.034295   0.468964   0.640282


Results of regression for p4 :
Regression equation: P4 = b0 + b1 (PP)
Standard error of regression = 1899.552979
R squared = 0.711384  r = 0.843436

               COEF        STD ERROR     T-VALUE          P
B0     -25653.725308      8745.738291  -2.933283   0.004287
B1       2047.675693       139.833133  14.643709   0.000000
```

my2

```
Results of regression for p5 :
Regression equation: P5 = b0 + b1 (P2) + b2 (P2)^2 + b3 (P2)^3
Standard error of regression = 1.576415
R squared = 0.834794  r = 0.913671

              COEF        STD ERROR     T-VALUE          P
B0       325.184077      229.791105    1.415129   0.160684
B1       -16.506176       12.439992   -1.326864   0.188107
B2         0.316432        0.223759    1.414168   0.160965
B3        -0.001921        0.001337   -1.436938   0.154406


Results of regression for p6 :
Regression equation: P6 = b0 + b1 (P1)
Standard error of regression = 8.242661
R squared = 0.000415  r = 0.020380

              COEF        STD ERROR     T-VALUE          P
B0        29.189509       30.474847    0.957823   0.340806
B1        -0.292706        1.539510   -0.190129   0.849651
```



```
Results of regression for pp :
Division #1, between 0.00 and 20.00 (n = 17).
Regression equation: PP = b0 + b1 (PHI) + b2 (I_n-1) + b3 (D)
Standard error of regression = 0.681286
R squared = 0.610621  r = 0.781423

              COEF        STD ERROR     T-VALUE    P-LEVEL
B0        75.294228       20.572475    3.659950   0.002882
B1        -0.061962        0.036849   -1.681530   0.116512
B2        11.364430        6.175324    1.840297   0.088660
B3        -0.416849        0.263702   -1.580760   0.137948


Results of regression for pp :
Division #2, between 20.00 and 64.00 (n = 41).
Regression equation: PP = b0 + b1 (PHI) + b2 (I_n-1) + b3 (D)
Standard error of regression = 0.803031
R squared = 0.739128  r = 0.859725

              COEF        STD ERROR     T-VALUE    P-LEVEL
B0        82.091859       11.599664    7.077089   0.000000
B1         0.102481        0.013270    7.722612   0.000000
B2         0.318853        2.999667    0.106296   0.915922
B3        -0.344478        0.126591   -2.721200   0.009856


Results of regression for pp :
Division #3, between 64.00 and 100.00 (n = 30).
Regression equation: PP = b0 + b1 (PHI) + b2 (I_n-1) + b3 (D)
Standard error of regression = 0.545747
R squared = 0.586333  r = 0.765724

              COEF        STD ERROR     T-VALUE    P-LEVEL
B0        82.624796       12.885576    6.412193   0.000001
B1        -0.056672        0.010328   -5.487361   0.000009
B2         2.227347        2.615720    0.851524   0.402254
B3        -0.252535        0.149311   -1.691332   0.102728


Overall regression for pp:
R squared = 0.790236, r = 0.888952, p = 0.000000.

RESULTS OF REGRESSION FOR VARIABLE INT:
DIVISION #1, BETWEEN 0.00 AND 28.00 (n = 24).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.043319
R squared = 0.370525  r = 0.608707

              COEF        STD ERROR     T-VALUE    P-LEVEL
B0         1.364062
B1        -0.003780        0.001050   -3.598576   0.001597
```



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Variables not in model:

          PARTIAL CORR     TOLERANCE          R-SQ       F-VALUE       P-LEVEL    NEW WEIGHT
```

S'_(n-0)	0.280930	0.871645	0.049679	1.799363	0.194117	0.000000
S'_(n-1)	0.117017	0.382886	0.008619	0.291545	0.594913	0.000000
S'_(n-2)	0.365467	0.612276	0.084076	3.237270	0.086368	0.304287
S'_(n-3)	0.480766	0.429917	0.145494	6.313013	0.020221	0.400286
S'_(n-4)	0.141021	0.959856	0.012518	0.426102	0.520990	0.000000
S'_(n-5)	0.354825	0.426623	0.079251	3.024725	0.096644	0.295427
S'_(n-6)	0.302086	0.489131	0.057444	2.108825	0.161230	0.000000
S'_(n-7)	0.034859	0.963823	0.000765	0.025549	0.874535	0.000000
S'_(n-8)	0.038654	0.351299	0.000941	0.031424	0.860995	0.000000
S'_(n-9)	0.202736	0.565829	0.025873	0.900138	0.353536	0.000000
S'_(n-10)	0.168414	0.416575	0.017854	0.613013	0.442396	0.000000

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.043239
R squared = 0.401355 r = 0.633526

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	1.345053			
B1	-0.003434	0.001100	-3.122253	0.005152
B2	0.020480	0.019693	1.039958	0.310185

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.270201	0.832528	0.043706	1.575177	0.223925	0.000000
(S'_(n-1))^2	0.011335	0.453909	0.000077	0.002570	0.960072	0.000000
(S'_(n-2))^2	0.207687	0.976644	0.025822	0.901564	0.353696	0.000000
(S'_(n-3))^2	0.393535	0.451454	0.092712	3.664991	0.069983	0.502812
(S'_(n-4))^2	0.166358	0.928245	0.016567	0.569254	0.459348	0.000000
(S'_(n-5))^2	0.189478	0.740332	0.021493	0.744781	0.398365	0.000000
(S'_(n-6))^2	0.389133	0.643618	0.090650	3.568920	0.073458	0.497188
(S'_(n-7))^2	0.092534	0.966416	0.005126	0.172731	0.682121	0.000000
(S'_(n-8))^2	0.155687	0.368416	0.014510	0.496811	0.489032	0.000000
(S'_(n-9))^2	0.065223	0.822700	0.002547	0.085445	0.773060	0.000000
(S'_(n-10))^2	0.083753	0.588460	0.004199	0.141283	0.710966	0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum(w_i, [S'_(i-n)]^2)
Standard error of regression = 0.040282
R squared = 0.505163 r = 0.710748

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	1.301242			
B1	-0.001715	0.001325	-1.295132	0.210026
B2	0.017030	0.018423	0.924374	0.366311
B3	0.008657	0.004227	2.048323	0.053084

RESULTS OF REGRESSION FOR VARIABLE INT:
DIVISION #2, BETWEEN 28.00 AND 62.00 (n = 28).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.039783
R squared = 0.767192 r = 0.875895

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	1.070928			
B1	0.006966	0.000753	9.256351	0.000000

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.498437	0.548821	0.057839	8.264104	0.008141	0.197172
S'_(n-1)	0.454233	0.381674	0.048035	6.499125	0.017307	0.179686
S'_(n-2)	0.129785	0.907515	0.003921	0.428318	0.518792	0.000000
S'_(n-3)	0.206711	0.468010	0.009948	1.115924	0.300900	0.000000
S'_(n-4)	0.466730	0.304970	0.050714	6.962640	0.014119	0.184629
S'_(n-5)	0.042100	0.346608	0.000413	0.044390	0.834838	0.000000
S'_(n-6)	0.100118	0.781625	0.002334	0.253127	0.619286	0.000000
S'_(n-7)	0.328391	0.575479	0.025106	3.021909	0.094450	0.129905
S'_(n-8)	0.405015	0.440966	0.038189	4.905631	0.036109	0.160216
S'_(n-9)	0.375122	0.513804	0.032760	4.094019	0.053851	0.148391
S'_(n-10)	0.201271	0.643454	0.009431	1.055511	0.314080	0.000000

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.032706
R squared = 0.848706 r = 0.921252

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	1.180896			
B1	0.004669	0.000880	5.304765	0.000017
B2	0.036852	0.010041	3.670065	0.001150

Variables not in model:

my2

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.167855	0.474795	0.004263	0.695814	0.412420	0.000000
(S'_(n-1))^2	0.038578	0.541224	0.000225	0.035771	0.851579	0.000000
(S'_(n-2))^2	0.171987	0.848566	0.004475	0.731550	0.400839	0.000000
(S'_(n-3))^2	0.083021	0.519881	0.001043	0.166569	0.686797	0.000000
(S'_(n-4))^2	0.404905	0.564061	0.024804	4.706346	0.040179	1.000000
(S'_(n-5))^2	0.101202	0.556317	0.001550	0.248350	0.622776	0.000000
(S'_(n-6))^2	0.019399	0.746499	0.000057	0.009035	0.925061	0.000000
(S'_(n-7))^2	0.029044	0.466606	0.000128	0.020263	0.887994	0.000000
(S'_(n-8))^2	0.061981	0.873370	0.000581	0.092554	0.763577	0.000000
(S'_(n-9))^2	0.231013	0.497407	0.008074	1.353009	0.256188	0.000000
(S'_(n-10))^2	0.018784	0.691354	0.000053	0.008471	0.927430	0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum(w_i, (S'_(i-n))^2)
Standard error of regression = 0.030521
R squared = 0.873510 r = 0.934618

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	1.129467			
B1	0.006035	0.001035	5.831032	0.000005
B2	0.031913	0.009643	3.309256	0.002945
B3	-0.010103	0.004657	-2.169412	0.040179

RESULTS OF REGRESSION FOR VARIABLE INT:
DIVISION #3, BETWEEN 62.00 AND 100.00 (n = 27).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.025454
R squared = 0.669508 r = 0.818234

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	1.697309			
B1	-0.003283	0.000461	-7.116509	0.000000

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.104621	0.448815	0.003617	0.265602	0.611012	0.000000
S'_(n-1)	0.136870	0.702014	0.006191	0.458188	0.504945	0.000000
S'_(n-2)	0.017587	0.697830	0.000102	0.007425	0.932047	0.000000
S'_(n-3)	0.223366	0.372552	0.016489	1.260293	0.272701	0.000000
S'_(n-4)	0.220689	0.436273	0.016096	1.228728	0.279640	0.000000
S'_(n-5)	0.100683	0.975497	0.003350	0.245782	0.624570	0.000000
S'_(n-6)	0.250262	0.346711	0.020699	1.603584	0.217549	0.000000
S'_(n-7)	0.378813	0.470300	0.047425	4.020981	0.056340	0.308883
S'_(n-8)	0.300269	0.430844	0.029798	2.378310	0.136114	0.000000
S'_(n-9)	0.435392	0.921376	0.062650	5.613754	0.026207	0.355017
S'_(n-10)	0.412192	0.361226	0.056152	4.912270	0.036397	0.336100

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.022129
R squared = 0.760212 r = 0.871901

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	1.674650			
B1	-0.002793	0.000433	-6.452725	0.000001
B2	-0.020750	0.006887	-3.013048	0.006016

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.288552	0.607738	0.019965	2.088966	0.161855	0.000000
(S'_(n-1))^2	0.131182	0.628986	0.004126	0.402733	0.531944	0.000000
(S'_(n-2))^2	0.201571	0.809957	0.009743	0.974084	0.333934	0.000000
(S'_(n-3))^2	0.287555	0.862769	0.019828	2.073247	0.163376	0.000000
(S'_(n-4))^2	0.174839	0.561494	0.007330	0.725251	0.403207	0.000000
(S'_(n-5))^2	0.161543	0.942550	0.006258	0.616296	0.440439	0.000000
(S'_(n-6))^2	0.293626	0.370682	0.020674	2.170071	0.154274	0.000000

(S'_(n-7))^2	0.430912	0.995842	0.044525	5.244606	0.031517	1.000000
(S'_(n-8))^2	0.141087	0.456983	0.004773	0.467127	0.501140	0.000000
(S'_(n-9))^2	0.258811	0.448326	0.016062	1.651216	0.211584	0.000000
(S'_(n-10))^2	0.138152	0.637346	0.004577	0.447519	0.510175	0.000000

my2

```
Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum(w_i, [S'_(i-n)]^2)
Standard error of regression = 0.020398
R squared = 0.804737  r = 0.897071

               COEF        STD ERROR     T-VALUE     P-LEVEL
B0          1.686738
B1         -0.002845         0.000400   -7.118353    0.000000
B2         -0.020861         0.006349   -3.285955    0.003238
B3         -0.008433         0.003682   -2.290111    0.031517

OVERALL REGRESSION FOR INT:
REGRESSION EQUATION = I_n = b0 + b1 (phi) + b2 SUM(v S') + b3 SUM (w S'^2)
R squared = 0.863917, r = 0.929471, p = 0.000000.

RESULTS OF REGRESSION FOR VARIABLE P1:
DIVISION #1, BETWEEN 0.00 AND 7.00 (n = 6).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.000844
R squared = 0.419163  r = 0.647428

               COEF        STD ERROR     T-VALUE     P-LEVEL
B0          0.050964
B1          0.000256         0.000151    1.699005    0.164547

Variables not in model:

           PARTIAL CORR     TOLERANCE         R-SQ       F-VALUE       P-LEVEL    NEW WEIGHT
S'_(n-0 )      0.287825      0.814150      0.048118      0.270978      0.638655      0.000000
S'_(n-1 )      0.578047      0.999998      0.194080      1.505438      0.307344      0.000000
S'_(n-2 )      0.763477      0.894150      0.338568      4.192469      0.133077      1.000000
S'_(n-3 )      0.499774      0.778063      0.145078      0.998794      0.391252      0.000000
S'_(n-4 )      0.534227      0.356664      0.165770      1.198147      0.353705      0.000000
S'_(n-5 )      0.668802      0.733774      0.259806      2.427867      0.217078      0.000000
S'_(n-6 )      0.601694      0.736800      0.210283      1.702455      0.283033      0.000000
S'_(n-7 )      0.230602      0.844501      0.030887      0.168492      0.709012      0.000000
S'_(n-8 )      0.740961      0.778908      0.318893      3.652228      0.151964      0.000000
S'_(n-9 )      0.426084      0.496735      0.105450      0.665456      0.474387      0.000000
S'_(n-10)      0.419710      0.268297      0.102318      0.641467      0.481742      0.000000

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.000629
R squared = 0.757731  r = 0.870478

               COEF        STD ERROR     T-VALUE     P-LEVEL
```



```
B0          0.051693
B1          0.000177         0.000119    1.488150    0.233448
B2         -0.000747         0.000365   -2.047552    0.133077

Variables not in model:

             PARTIAL CORR     TOLERANCE         R-SQ       F-VALUE       P-LEVEL    NEW WEIGHT
(S'_(n-0 ))^2      0.326763      0.478159      0.025868      0.239075      0.673237      0.000000
(S'_(n-1 ))^2      0.046546      0.846459      0.000525      0.004343      0.953454      0.000000
(S'_(n-2 ))^2      0.651715      0.082602      0.102899      1.476640      0.348285      0.000000
(S'_(n-3 ))^2      0.034884      0.329968      0.000295      0.002437      0.965116      0.000000
(S'_(n-4 ))^2      0.923666      0.535981      0.206694     11.620193      0.076334      0.501222
(S'_(n-5 ))^2      0.834418      0.053214      0.168680      4.584446      0.165582      0.000000
(S'_(n-6 ))^2      0.635976      0.417649      0.097989      1.358331      0.364024      0.000000
(S'_(n-7 ))^2      0.293052      0.848267      0.020806      0.187895      0.706948      0.000000
(S'_(n-8 ))^2      0.919161      0.694378      0.204683     10.891382      0.080839      0.498778
(S'_(n-9 ))^2      0.311291      0.135637      0.023476      0.214600      0.688709      0.000000
(S'_(n-10))^2      0.521810      0.244143      0.065966      0.748330      0.478190      0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum(w_i, [S'_(i-n)]^2)
Standard error of regression = 0.000499
R squared = 0.898694  r = 0.947995

               COEF        STD ERROR     T-VALUE     P-LEVEL
B0          0.051264
B1          0.000043         0.000124    0.345883    0.762426
B2         -0.000758         0.000289   -2.625253    0.119615
B3          0.000682         0.000409    1.668211    0.237212

RESULTS OF REGRESSION FOR VARIABLE P1:
DIVISION #2, BETWEEN 7.00 AND 50.00 (n = 38).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.001150
R squared = 0.409905  r = 0.640238
```

my2

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.052415			
B1	-0.000074	0.000015	-5.000711	0.000015

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.453651	0.396204	0.121441	9.069436	0.004802	1.000000
S'_(n-1)	0.084568	0.999677	0.004220	0.252112	0.618736	0.000000
S'_(n-2)	0.252833	0.354526	0.037722	2.390150	0.131097	0.000000
S'_(n-3)	0.148953	0.241416	0.013092	0.794162	0.378930	0.000000
S'_(n-4)	0.028119	0.438152	0.000467	0.027694	0.868788	0.000000
S'_(n-5)	0.112609	0.988897	0.007483	0.449528	0.506959	0.000000
S'_(n-6)	0.216076	0.425965	0.027551	1.714149	0.198978	0.000000
S'_(n-7)	0.215310	0.269071	0.027356	1.701426	0.200614	0.000000
S'_(n-8)	0.003660	0.824660	0.000008	0.000469	0.982847	0.000000

S'_(n-9)	0.135790	0.598818	0.010881	0.657486	0.422928	0.000000
S'_(n-10)	0.170683	0.210540	0.017191	1.050243	0.312482	0.000000

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.001040
R squared = 0.531346 r = 0.728935

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.050524			
B1	-0.000024	0.000021	-1.142533	0.260988
B2	-0.000478	0.000159	-3.011550	0.004802

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.013130	0.643300	0.000081	0.005863	0.939415	0.000000
(S'_(n-1))^2	0.273289	0.846890	0.035002	2.744323	0.106802	0.000000
(S'_(n-2))^2	0.220354	0.523437	0.022756	1.735147	0.196564	0.000000
(S'_(n-3))^2	0.158699	0.929033	0.011803	0.878430	0.355242	0.000000
(S'_(n-4))^2	0.116389	0.472869	0.006349	0.466904	0.499045	0.000000
(S'_(n-5))^2	0.130237	0.886804	0.007949	0.586644	0.449005	0.000000
(S'_(n-6))^2	0.229870	0.856828	0.024764	1.896787	0.177438	0.000000
(S'_(n-7))^2	0.139252	0.809509	0.009088	0.672339	0.417949	0.000000
(S'_(n-8))^2	0.285425	0.830985	0.038180	3.015566	0.091523	1.000000
(S'_(n-9))^2	0.128476	0.781861	0.007736	0.570626	0.455212	0.000000
(S'_(n-10))^2	0.053590	0.669859	0.001346	0.097925	0.756246	0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum[w_i, (S'_(i-n))^2)
Standard error of regression = 0.001011
R squared = 0.569526 r = 0.754669

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.050632			
B1	-0.000021	0.000021	-0.988056	0.330105
B2	-0.000574	0.000164	-3.500804	0.001318
B3	-0.000091	0.000052	-1.736538	0.091523

RESULTS OF REGRESSION FOR VARIABLE P1:
DIVISION #3, BETWEEN 50.00 AND 100.00 (n = 35).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.001288
R squared = 0.192823 r = 0.439116

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.047255			
B1	0.000044	0.000016	2.807711	0.008314

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.123330	0.277336	0.012277	0.494250	0.487121	0.000000
S'_(n-1)	0.078704	0.920126	0.005000	0.199456	0.658168	0.000000
S'_(n-2)	0.044725	0.447044	0.001615	0.064138	0.801692	0.000000
S'_(n-3)	0.080334	0.262722	0.005209	0.207854	0.651534	0.000000
S'_(n-4)	0.207580	0.706099	0.034781	1.440947	0.238797	1.000000
S'_(n-5)	0.108310	0.746513	0.009469	0.379850	0.542043	0.000000

my2

S'_(n-6)	0.173722	0.230681	0.024360	0.995792	0.325817	0.000000
S'_(n-7)	0.102190	0.273806	0.008429	0.337695	0.565234	0.000000
S'_(n-8)	0.094562	0.810902	0.007218	0.288722	0.594758	0.000000
S'_(n-9)	0.036935	0.600673	0.001101	0.043713	0.835713	0.000000
S'_(n-10)	0.062415	0.201178	0.003144	0.125147	0.725838	0.000000

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.001279
R squared = 0.227604 r = 0.477079

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.046017			
B1	0.000056	0.000018	3.025787	0.004863
B2	-0.000232	0.000193	-1.200395	0.238797

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.026897	0.392765	0.000559	0.022444	0.881883	0.000000
(S'_(n-1))^2	0.094891	0.572422	0.006955	0.281668	0.599392	0.000000
(S'_(n-2))^2	0.071696	0.781554	0.003970	0.160174	0.691741	0.000000
(S'_(n-3))^2	0.073924	0.514158	0.004221	0.170338	0.682653	0.000000
(S'_(n-4))^2	0.029562	0.348430	0.000675	0.027114	0.870277	0.000000
(S'_(n-5))^2	0.302058	0.717545	0.070473	3.112380	0.087553	1.000000
(S'_(n-6))^2	0.025029	0.404399	0.000484	0.019432	0.890038	0.000000
(S'_(n-7))^2	0.105929	0.522126	0.008667	0.351798	0.557400	0.000000
(S'_(n-8))^2	0.088839	0.610908	0.006096	0.246612	0.622974	0.000000
(S'_(n-9))^2	0.186125	0.803474	0.026758	1.112459	0.299699	0.000000
(S'_(n-10))^2	0.121135	0.668348	0.011334	0.461658	0.501892	0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum[w_i, [S'_(i-n)]^2]
Standard error of regression = 0.001239
R squared = 0.298077 r = 0.545964

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.044730			
B1	0.000076	0.000021	3.584012	0.001143
B2	-0.000351	0.000199	-1.767600	0.086971
B3	-0.000122	0.000069	-1.764194	0.087553

OVERALL REGRESSION FOR P1:
REGRESSION EQUATION = 1/P1 = b0 + b1 (ph1) + b2 SUM(v S') + b3 SUM (w S'^2)
R squared = 0.509245, r = 0.713614, p = 0.000000.

RESULTS OF REGRESSION FOR VARIABLE P2:

DIVISION #1, BETWEEN 0.00 AND 27.00 (n = 23).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.000953
R squared = 0.381544 r = 0.617692

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.018387			
B1	-0.000088	0.000024	-3.599377	0.001686

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.673126	0.860748	0.280221	16.569623	0.000596	0.269443
S'_(n-1)	0.334463	0.428135	0.069184	2.519107	0.128159	0.000000
S'_(n-2)	0.242039	0.679211	0.036231	1.244563	0.277819	0.000000
S'_(n-3)	0.372841	0.478260	0.085972	3.229085	0.087460	0.149243
S'_(n-4)	0.607367	0.875582	0.228145	11.690429	0.002719	0.243121
S'_(n-5)	0.384671	0.451000	0.091514	3.473402	0.077112	0.153979
S'_(n-6)	0.274654	0.485529	0.046653	1.631794	0.216085	0.000000
S'_(n-7)	0.460203	0.964118	0.130981	5.373831	0.031151	0.184213
S'_(n-8)	0.204334	0.388084	0.025822	0.871434	0.361693	0.000000
S'_(n-9)	0.247646	0.577072	0.037929	1.306713	0.266490	0.000000
S'_(n-10)	0.333666	0.462468	0.068855	2.505624	0.129126	0.000000

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.000926
R squared = 0.443510 r = 0.665966

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.018621			
B1	-0.000094	0.000024	-3.891985	0.000906
B2	0.000751	0.000503	1.492328	0.151220

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT

my2

(S'_(n-0))^2	0.708011	0.380888	0.278957	19.097472	0.000329	0.182374
(S'_(n-1))^2	0.500954	0.448950	0.139654	6.365629	0.020709	0.129039
(S'_(n-2))^2	0.303079	0.937424	0.051118	1.921818	0.181711	0.000000
(S'_(n-3))^2	0.520727	0.518614	0.150896	7.068705	0.015508	0.134132
(S'_(n-4))^2	0.574723	0.904762	0.183812	9.371200	0.006426	0.148041
(S'_(n-5))^2	0.019001	0.681716	0.000201	0.006862	0.934846	0.000000
(S'_(n-6))^2	0.684638	0.651808	0.260843	16.763314	0.000618	0.176353
(S'_(n-7))^2	0.429179	0.698655	0.102503	4.289874	0.052201	0.110551
(S'_(n-8))^2	0.142791	0.365710	0.011346	0.395457	0.536933	0.000000
(S'_(n-9))^2	0.294807	0.805303	0.048365	1.808489	0.194524	0.000000
(S'_(n-10))^2	0.463964	0.592038	0.119791	5.211907	0.034122	0.119511

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum(w_i, [S'_(i-n)]^2)

Standard error of regression = 0.000950
R squared = 0.443992 r = 0.666327

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.018523			
B1	-0.000093	0.000025	-3.773640	0.001285
B2	0.000816	0.000722	1.129685	0.272670
B3	0.000035	0.000272	0.128345	0.899224

RESULTS OF REGRESSION FOR VARIABLE P2:
DIVISION #2, BETWEEN 27.00 AND 70.00 (n = 33).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.000845
R squared = 0.620223 r = 0.787543

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.014053			
B1	0.000087	0.000012	7.115261	0.000000

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.155576	0.521707	0.009192	0.744132	0.395184	0.000000
S'_(n-1)	0.321433	0.313453	0.039238	3.456717	0.072829	1.000000
S'_(n-2)	0.016322	0.777118	0.000101	0.007994	0.929351	0.000000
S'_(n-3)	0.196213	0.592430	0.014621	1.201238	0.281795	0.000000
S'_(n-4)	0.044489	0.220433	0.000752	0.059495	0.808957	0.000000
S'_(n-5)	0.071824	0.255896	0.001959	0.155564	0.696064	0.000000
S'_(n-6)	0.154362	0.712873	0.009049	0.732274	0.398930	0.000000
S'_(n-7)	0.135974	0.687055	0.007022	0.565120	0.458062	0.000000
S'_(n-8)	0.130830	0.306133	0.006500	0.522434	0.475403	0.000000
S'_(n-9)	0.098772	0.482073	0.003705	0.295561	0.590696	0.000000
S'_(n-10)	0.210366	0.874231	0.016807	1.389085	0.247824	0.000000

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.000813
R squared = 0.659462 r = 0.812072

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.015733			
B1	0.000055	0.000021	2.597935	0.014397
B2	0.000269	0.000145	1.859225	0.072829

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.201371	0.756211	0.013809	1.225655	0.277353	0.000000
(S'_(n-1))^2	0.125897	0.721380	0.005398	0.467056	0.499769	0.000000
(S'_(n-2))^2	0.087952	0.848902	0.002634	0.226080	0.638008	0.000000
(S'_(n-3))^2	0.192985	0.636859	0.012683	1.121832	0.298267	0.000000
(S'_(n-4))^2	0.295370	0.434350	0.029710	2.771886	0.106702	0.000000

(S'_(n-5))^2	0.337448	0.578589	0.038777	3.726617	0.063383	1.000000
(S'_(n-6))^2	0.159675	0.757837	0.008682	0.758731	0.390880	0.000000
(S'_(n-7))^2	0.079003	0.863790	0.002125	0.182141	0.672691	0.000000
(S'_(n-8))^2	0.120668	0.935518	0.004959	0.428504	0.517882	0.000000
(S'_(n-9))^2	0.117526	0.698048	0.004704	0.406166	0.528922	0.000000
(S'_(n-10))^2	0.170959	0.907679	0.009953	0.873105	0.357813	0.000000

Final results of regression (step #3).

my2

```
Variables in: resp, sum[v_i S'_(i-n)], sum(w_i, [S'_(i-n)]^2)
Standard error of regression = 0.000779
R squared = 0.698239  r = 0.835607

               COEF        STD ERROR     T-VALUE     P-LEVEL
B0          0.016120
B1          0.000052         0.000020   2.552201   0.016234
B2          0.000159         0.000150   1.064446   0.295910
B3         -0.000192         0.000099  -1.930445   0.063383

RESULTS OF REGRESSION FOR VARIABLE P2:
DIVISION #3, BETWEEN 70.00 AND 100.00 (n = 23).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.000872
R squared = 0.001358  r = 0.036853

               COEF        STD ERROR     T-VALUE     P-LEVEL
B0          0.019077
B1          0.000004         0.000021   0.168995   0.867417

Variables not in model:

           PARTIAL CORR     TOLERANCE          R-SQ       F-VALUE      P-LEVEL    NEW WEIGHT
S'_(n-0 )      0.237626      0.624539      0.056390      1.196910     0.286942      0.000000
S'_(n-1 )      0.040635      0.437601      0.001649      0.033078     0.857512      0.000000
S'_(n-2 )      0.095058      0.935155      0.009024      0.182369     0.673908      0.000000
S'_(n-3 )      0.057684      0.544387      0.003323      0.066771     0.798738      0.000000
S'_(n-4 )      0.095607      0.448442      0.009128      0.184500     0.672126      0.000000
S'_(n-5 )      0.054208      0.973507      0.002935      0.058943     0.810647      0.000000
S'_(n-6 )      0.322836      0.301572      0.104082      2.326987     0.142807      1.000000
S'_(n-7 )      0.065985      0.552833      0.004348      0.087460     0.770480      0.000000
S'_(n-8 )      0.141282      0.507509      0.019934      0.407344     0.530562      0.000000
S'_(n-9 )      0.190442      0.999876      0.036219      0.752658     0.395927      0.000000
S'_(n-10)      0.105202      0.465817      0.011052      0.223827     0.641262      0.000000

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.000846
R squared = 0.105440  r = 0.324715

               COEF        STD ERROR     T-VALUE     P-LEVEL
B0          0.022534
B1         -0.000043         0.000037  -1.179154   0.252175
```



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B2         -0.000443         0.000291  -1.525446   0.142807

Variables not in model:

              PARTIAL CORR     TOLERANCE          R-SQ       F-VALUE      P-LEVEL    NEW WEIGHT
(S'_(n-0 ))^2      0.031091      0.832320      0.000865      0.018385     0.893572      0.000000
(S'_(n-1 ))^2      0.017543      0.482364      0.000275      0.005849     0.939838      0.000000
(S'_(n-2 ))^2      0.029752      0.804679      0.000792      0.016833     0.898133      0.000000
(S'_(n-3 ))^2      0.207204      0.595097      0.038407      0.852328     0.367471      0.000000
(S'_(n-4 ))^2      0.229583      0.593218      0.047151      1.057186     0.316770      0.512940
(S'_(n-5 ))^2      0.128562      0.968362      0.014786      0.319314     0.578632      0.000000
(S'_(n-6 ))^2      0.218000      0.166732      0.042513      0.948007     0.342461      0.487060
(S'_(n-7 ))^2      0.061776      0.926608      0.003414      0.072786     0.790231      0.000000
(S'_(n-8 ))^2      0.078419      0.562221      0.005501      0.117565     0.735455      0.000000
(S'_(n-9 ))^2      0.081069      0.545835      0.005879      0.125698     0.726840      0.000000
(S'_(n-10))^2      0.093262      0.558480      0.007781      0.166708     0.687619      0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum(w_i, [S'_(i-n)]^2)
Standard error of regression = 0.000826
R squared = 0.190534  r = 0.436502

               COEF        STD ERROR     T-VALUE     P-LEVEL
B0          0.025261
B1         -0.000074         0.000042  -1.764672   0.093689
B2         -0.000748         0.000356  -2.099734   0.049340
B3         -0.000162         0.000114  -1.413279   0.173748

OVERALL REGRESSION FOR P2:
REGRESSION EQUATION = 1/P2 = b0 + b1 (phi) + b2 SUM(v S') + b3 SUM (w S'^2)
R squared = 0.708190, r = 0.841540, p = 0.000000.

Results of detrending for pp :
Division #1, between 0.00 and 20.00 (n = 17).
Detrending equation: PP = b0 + b1 (PHI)
Standard error of regression = 0.768224
R squared = 0.428736  r = 0.654780

               COEF        STD ERROR     T-VALUE     P-LEVEL
B0         -0.147012         0.378141  -0.388776   0.702905
B1         -0.108490         0.032335  -3.355231   0.004339
```

my2

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Results of detrending for pp :
Division #2, between 20.00 and 64.00 (n = 41).
Detrending equation: PP = b0 + b1 (PHI)
Standard error of regression = 0.964227
R squared = 0.612193  r = 0.782427

                COEF        STD ERROR     T-VALUE     P-LEVEL
B0         -4.088697         0.515486   -7.931738    0.000000
B1          0.093697         0.011791    7.946317    0.000000


Results of detrending for pp :
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```
Division #3, between 64.00 and 100.00 (n = 30).
Detrending equation: PP = b0 + b1 (PHI)
Standard error of regression = 0.581975
R squared = 0.493405  r = 0.702428

                COEF        STD ERROR     T-VALUE     P-LEVEL
B0          5.369197         0.854315    6.284801    0.000001
B1         -0.053206         0.010188   -5.222157    0.000015


Overall detrending for pp:
R squared = 0.699109, r = 0.836128, p = 0.000000.

Results of detrending for int :
Division #1, between 0.00 and 28.00 (n = 24).
Detrending equation: INT = b0 + b1 (PHI)
Standard error of regression = 0.042579
R squared = 0.371835  r = 0.609783

                COEF        STD ERROR     T-VALUE     P-LEVEL
B0         -0.011817         0.017274   -0.684097    0.500467
B1         -0.003751         0.000995   -3.769155    0.000942


Results of detrending for int :
Division #2, between 28.00 and 62.00 (n = 28).
Detrending equation: INT = b0 + b1 (PHI)
Standard error of regression = 0.042818
R squared = 0.735448  r = 0.857583

                COEF        STD ERROR     T-VALUE     P-LEVEL
B0         -0.319146         0.036813   -8.669301    0.000000
B1          0.007148         0.000783    9.132324    0.000000


Results of detrending for int :
Division #3, between 62.00 and 100.00 (n = 27).
Detrending equation: INT = b0 + b1 (PHI)
Standard error of regression = 0.015266
R squared = 0.662768  r = 0.814106

                COEF        STD ERROR     T-VALUE     P-LEVEL
B0          0.307885         0.034784    8.851432    0.000000
B1         -0.003154         0.000418   -7.549460    0.000000


Overall detrending for int:
R squared = 0.778498, r = 0.882326, p = 0.000000.

Results of detrending for p1 :
Division #1, between 0.00 and 7.00 (n = 6).
Detrending equation: P1 = b0 + b1 (PHI)
Standard error of regression = 0.321049
R squared = 0.414834  r = 0.644076

                COEF        STD ERROR     T-VALUE     P-LEVEL
```



```
B0         -0.160810         0.231796   -0.693758    0.526015
B1         -0.096582         0.057355   -1.683945    0.167478


Results of detrending for p1 :
Division #2, between 7.00 and 50.00 (n = 38).
Detrending equation: P1 = b0 + b1 (PHI)
Standard error of regression = 0.459678
R squared = 0.433877  r = 0.658694

                COEF        STD ERROR     T-VALUE     P-LEVEL
```

my2

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B0         -0.815693         0.185219  -4.403932   0.000077
B1          0.031329         0.005658   5.536791   0.000002


Results of detrending for p1 :
Division #3, between 50.00 and 100.00 (n = 35).
Detrending equation: P1 = b0 + b1 (PHI)
Standard error of regression = 0.474322
R squared = 0.182754  r = 0.427497

               COEF        STD ERROR     T-VALUE     P-LEVEL
B0          1.104587         0.402651   2.743289   0.009142
B1         -0.015276         0.005173  -2.953177   0.005306


Overall detrending for p1:
R squared = 0.384685, r = 0.620230, p = 0.000000.

Results of detrending for p2 :
Division #1, between 0.00 and 27.00 (n = 23).
Detrending equation: P2 = b0 + b1 (PHI)
Standard error of regression = 3.224087
R squared = 0.330621  r = 0.574996

               COEF        STD ERROR     T-VALUE     P-LEVEL
B0         -0.605033         1.328795  -0.455325   0.653145
B1          0.266759         0.079145   3.370488   0.002641


Results of detrending for p2 :
Division #2, between 27.00 and 70.00 (n = 33).
Detrending equation: P2 = b0 + b1 (PHI)
Standard error of regression = 2.933877
R squared = 0.566552  r = 0.752697

               COEF        STD ERROR     T-VALUE     P-LEVEL
B0         13.273249         1.944063   6.827583   0.000000
B1         -0.268575         0.038620  -6.954288   0.000000


Results of detrending for p2 :
Division #3, between 70.00 and 100.00 (n = 23).
Detrending equation: P2 = b0 + b1 (PHI)
Standard error of regression = 2.126772
R squared = 0.001963  r = 0.044303




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               COEF        STD ERROR     T-VALUE     P-LEVEL
B0         -2.656368         4.231694  -0.627732   0.536363
B1         -0.010388         0.048843  -0.212681   0.833450


Overall detrending for p2:
R squared = 0.629680, r = 0.793524, p = 0.000000.

Results of linear model for pp :
Linear model equation: PP = b0 + b1 (I_n-1) + b2 (D_n)
Standard error of linear model = 0.690545
R squared = 0.206650  r = 0.454588

               COEF        STD ERROR     T-VALUE           P
B0         71.318719         6.469173  11.024394   0.000000
B1          4.598353         2.185818   2.103721   0.038358
B2         -0.214770         0.067555  -3.179205   0.002061

Overall results of linear modelling of pp
   after retrending: R-squared = 0.774900, r = 0.880284.


Results of linear model for int :
Linear model equation: INT = b0 + b1 (S_n) + ... + b(1+m) (S_n-m)
Standard error of linear model = 0.033400
R squared = 0.202250  r = 0.449722

               COEF        STD ERROR     T-VALUE           P
B0         -0.038247         1.291161  -0.029623   0.976442
B1          0.011641         0.004677   2.488845   0.014891
B2          0.002774         0.005141   0.539591   0.590978
B3          0.006163         0.005051   1.220048   0.226031
B4         -0.002757         0.005069  -0.543842   0.588063
B5          0.006727         0.004670   1.440596   0.153601
B6         -0.002451         0.004690  -0.522654   0.602659
B7         -0.002712         0.004674  -0.580105   0.563474
B8         -0.003873         0.005177  -0.747989   0.456660
B9         -0.000108         0.005181  -0.020826   0.983436
B10        -0.004127         0.005019  -0.822249   0.413379
B11        -0.000606         0.004692  -0.129083   0.897616

Overall results of linear modelling of int
   after retrending: R-squared = 0.833611, r = 0.913023.
```

my2

Results of linear model for p1 :
Linear model equation: P1 = b0 + b1 (S_n) + ... + b(1+m) (S_n-m)
Standard error of linear model = 0.434951
R squared = 0.184071 r = 0.429035

	COEF	STD ERROR	T-VALUE	P
B0	7.287656	16.813937	0.433430	0.665869
B1	0.171338	0.060911	2.812927	0.006175
B2	-0.032127	0.066952	-0.479855	0.632640
B3	0.099563	0.065777	1.513645	0.134057

B4	-0.104530	0.066006	-1.583651	0.117219
B5	0.087789	0.060810	1.443667	0.152737
B6	-0.070735	0.061075	-1.158169	0.250241
B7	0.028628	0.060870	0.470316	0.639409
B8	-0.075012	0.067420	-1.112611	0.269208
B9	0.001586	0.067472	0.023509	0.981303
B10	-0.050635	0.065361	-0.774690	0.440806
B11	0.038521	0.061098	0.630470	0.530184

Overall results of linear modelling of p1
after retrending: R-squared = 0.493709, r = 0.702644.

Results of linear model for p2 :
Linear model equation: P2 = b0 + b1 (S_n) + ... + b(1+m) (S_n-m)
Standard error of linear model = 2.495455
R squared = 0.213654 r = 0.462228

	COEF	STD ERROR	T-VALUE	P
B0	68.882795	96.467057	0.714055	0.477271
B1	-1.001070	0.349465	-2.864578	0.005331
B2	0.009868	0.384125	0.025689	0.979569
B3	0.110492	0.377383	0.292784	0.770445
B4	-0.349589	0.378695	-0.923141	0.358710
B5	0.402784	0.348885	1.154490	0.251736
B6	-0.064649	0.350406	-0.184496	0.854091
B7	0.552419	0.349231	1.581816	0.117637
B8	-0.199984	0.386808	-0.517010	0.606575
B9	0.528489	0.387111	1.365211	0.176014
B10	0.092919	0.374998	0.247785	0.804936
B11	-0.185368	0.350542	-0.528804	0.598406

Overall results of linear modelling of p2
after retrending: R-squared = 0.721730, r = 0.849547.

Results of linear model for diast :
Linear model equation: D_n+1 = b0 + b1(D) + b2(D') + b3(D'') + b4(PP) + b5(INT) + b6(P1) + b7(P2)
Standard error of linear model = 0.761411
R squared = 0.612814 r = 0.782825

	COEF	STD ERROR	T-VALUE	P
B0	54.850710	13.501478	4.062571	0.000113
B1	0.373081	0.091906	4.059388	0.000114
B2	-0.071966	0.013636	-5.277653	0.000001
B3	0.003099	0.000633	4.897200	0.000005
B4	-0.102141	0.135074	-0.756187	0.451758
B5	-7.487429	2.905239	-2.577217	0.011797
B6	-0.017487	0.203511	-0.085926	0.931740
B7	0.077049	0.037137	2.074719	0.041227

Results of linear model for ddiast :
Linear model equation: D'_n+1 = b0 + b1(D) + b2(D') + b3(D'') + b4(PP) + b5(INT) + b6(P1) + b7(P2)
Standard error of linear model = 14.406730
R squared = 0.195404 r = 0.442045

	COEF	STD ERROR	T-VALUE	P
B0	190.192565	255.462675	0.744502	0.458754
B1	-1.075216	1.738955	-0.618312	0.538126
B2	0.241930	0.258006	0.937690	0.351226
B3	-0.008461	0.011972	-0.706732	0.481786
B4	-0.325739	2.555742	-0.127454	0.898901
B5	40.000758	54.970283	0.727680	0.468934
B6	-10.464395	3.850655	-2.717562	0.008059
B7	0.589692	0.702675	0.839210	0.403852

Results of linear model for dddiast :
Linear model equation: D''_n+1 = b0 + b1(D) + b2(D') + b3(D'') + b4(PP) + b5(INT) + b6(P1) + b7(P2)
Standard error of linear model = 295.970801

my2

R squared = 0.166153 r = 0.407618

	COEF	STD ERROR	T-VALUE	P
B0	9089.022937	5248.206364	1.731834	0.087157
B1	-41.249302	35.724961	-1.154635	0.251677
B2	-0.168630	5.300463	-0.031814	0.974700
B3	0.147210	0.245951	0.598535	0.551174
B4	-53.203817	52.504970	-1.013310	0.313967
B5	-66.183453	1129.305439	-0.058605	0.953413
B6	-175.675798	79.107578	-2.220720	0.029198
B7	11.212701	14.435710	0.776734	0.439607

Results of windkessel model for diast :
Overall results for diast:
R-squared = 0.840327, r = 0.916694.

NONLINEAR FORECAST RESULTS (In-sample, n = 69):

STEP	PP	INT	P1	P2	DIAST
0	0.916327	0.929673	0.670934	0.852523	1.000000
1	0.493061	0.884877	0.423289	0.648652	0.426832
2	0.353819	0.807571	0.443928	0.685104	0.428941
3	0.632244	0.832215	0.318232	0.678079	0.152701
4	0.596588	0.699053	0.338840	0.731669	0.180131
5	0.595976	0.677222	0.227572	-0.211161	0.192844
6	0.439070	0.753702	0.118123	0.155762	-0.053333
7	0.472614	0.047341	0.001381	0.113446	-0.065970
8	0.281150	0.257134	0.008355	0.037200	0.132996
9	0.312971	0.022491	0.140607	-0.083009	0.198985
10	0.334080	-0.193899	0.227549	0.022440	0.130847

NONLINEAR FORECAST RESULTS (Out-of-sample, n = 22):

STEP	PP	INT	P1	P2	DIAST
0	0.886565	0.797171	0.513839	0.785182	1.000000
1	0.465830	0.686550	0.270405	0.677753	0.596919
2	0.278609	0.605634	0.497292	0.572738	0.822050
3	0.519656	0.533057	0.576858	0.589174	0.607921
4	0.518571	0.469455	0.518607	0.584567	0.658369
5	0.554112	0.471204	0.359788	-0.235922	0.557941
6	0.226196	0.494068	-0.007640	-0.013510	-0.123721
7	0.422675	0.194667	0.155524	-0.106339	-0.073759

8	0.512254	0.174133	0.040860	-0.052160	0.354924
9	0.507211	0.059269	0.240454	0.010879	0.480042
10	0.378574	-0.361672	0.261596	0.186399	0.229968

LINEAR FORECAST RESULTS (In-sample, n = 69):

STEP	PP	INT	P1	P2	DIAST
0	0.903486	0.906487	0.649099	0.855497	1.000000
1	0.877722	0.903148	0.625810	0.831792	0.666144
2	0.874274	0.903112	0.630399	0.814036	0.411796
3	0.866829	0.887814	0.603610	0.799746	0.119139
4	0.864296	0.887975	0.607967	0.785007	0.088678
5	0.862478	0.885137	0.577015	0.786750	0.112237
6	0.859273	0.883606	0.584244	0.784443	0.049878
7	0.858577	0.871480	0.584410	0.763522	-0.053273
8	0.861156	0.868362	0.595340	0.759487	-0.040551
9	0.860830	0.868635	0.593883	0.766512	-0.116633
10	0.853706	0.871047	0.614103	0.776436	-0.225109

LINEAR FORECAST RESULTS (Out-of-sample, n = 22):

STEP	PP	INT	P1	P2	DIAST
0	0.883602	0.810200	0.452578	0.765701	1.000000
1	0.839911	0.877595	0.387926	0.797044	0.672855
2	0.810243	0.882351	0.375489	0.822973	0.212003
3	0.791175	0.874641	0.476121	0.758393	0.060242
4	0.787002	0.900376	0.586610	0.791041	0.079816
5	0.802531	0.872679	0.701881	0.808358	0.240159
6	0.818799	0.880506	0.730595	0.761837	0.216391
7	0.823762	0.879490	0.714655	0.764070	0.025375
8	0.815621	0.880489	0.669418	0.756606	-0.163831
9	0.800335	0.871236	0.677482	0.730633	-0.426675
10	0.813138	0.839755	0.682924	0.765077	-0.452922

Error analysis for long forecast into file n116.00:
Errors in p1: 0
Errors in p2: 2
Errors in p5: 0
Post inflection adjustment in p5: 7

my2

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In-sample data for beats 128 through 200 (n = 69):

BEATNO	TIME	INT	DIAS	DIAS'	DIAS''	SYST	PP	P1	P2	P3	P4	P5	P6	RESP
AVG	3323.930	1.477	78.84	-43.87	-249.18	144.04	65.19	20.33	47.86	1275.94	107919.90	53.74	32.92	54.78
STDDEV	30.864	0.053	1.38	23.04	429.69	1.83	1.26	1.06	4.11	43.80	4397.31	4.31	8.75	28.87

Out-of-sample data for beats 201 through 240 (n = 38):

BEATNO	TIME	INT	DIAS	DIAS'	DIAS''	SYST	PP	P1	P2	P3	P4	P5	P6	RESP
AVG	3405.634	1.472	80.01	-44.47	-294.38	144.42	64.41	21.29	44.70	1303.37	107286.82	51.72	32.24	51.13
STDDEV	17.553	0.052	1.26	19.15	310.89	1.78	1.22	1.09	3.53	44.55	3553.72	4.22	7.18	29.38

Results of regression for p3 :
Regression equation: P3 = b0 + b1 (P1) + b2 (P1)^2
Standard error of regression = 23.869110
R squared = 0.711801 r = 0.843683

	COEF	STD ERROR	T-VALUE	P
B0	1093.259608	927.653533	1.178521	0.242820
B1	-17.347815	88.656297	-0.195675	0.845466
B2	1.242946	2.114867	0.587718	0.558727

Results of regression for p4 :
Regression equation: P4 = b0 + b1 (PP)
Standard error of regression = 2490.382231
R squared = 0.683973 r = 0.827027

	COEF	STD ERROR	T-VALUE	P
B0	-79636.426541	15578.202970	-5.112042	0.000003
B1	2876.880166	238.905953	12.041894	0.000000

Results of regression for p5 :
Regression equation: P5 = b0 + b1 (P2) + b2 (P2)^2 + b3 (P2)^3
Standard error of regression = 1.988704
R squared = 0.796079 r = 0.892233

	COEF	STD ERROR	T-VALUE	P
B0	229.774330	228.525307	1.005466	0.318401
B1	-12.978177	13.964211	-0.929389	0.356127
B2	0.290415	0.283044	1.026043	0.308675
B3	-0.002008	0.001903	-1.054979	0.295341

Results of regression for p6 :
Regression equation: P6 = b0 + b1 (P1)
Standard error of regression = 8.815830
R squared = 0.000026 r = 0.005093

	COEF	STD ERROR	T-VALUE	P
B0	33.801474	21.075380	1.603837	0.113454
B1	-0.041931	1.005816	-0.041688	0.966871

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Results of regression for pp :
Division #1, between 0.00 and 45.00 (n = 28).
Regression equation: PP = b0 + b1 (PHI) + b2 (I_n-1) + b3 (D)
Standard error of regression = 0.596003
R squared = 0.540910 r = 0.735466

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	108.684689	18.791492	5.783718	0.000006
B1	-0.050088	0.011020	-4.545254	0.000132
B2	-9.757383	4.755875	-2.051648	0.051269
B3	-0.363281	0.168429	-2.156878	0.041247

Results of regression for pp :

my2

```
Division #2, between 45.00 and 77.00 (n = 22).
Regression equation: PP = b0 + b1 (PHI) + b2 (I_n-1) + b3 (D)
Standard error of regression = 0.820551
R squared = 0.711615  r = 0.843573

               COEF        STD ERROR     T-VALUE     P-LEVEL
B0       121.041651       21.810607    5.549669    0.000029
B1         0.087400        0.022601    3.867158    0.001129
B2       -17.004993        6.867959   -2.475989    0.023448
B3        -0.458796        0.170099   -2.697222    0.014738


Results of regression for pp :
Division #3, between 77.00 and 100.00 (n = 18).
Regression equation: PP = b0 + b1 (PHI) + b2 (I_n-1) + b3 (D)
Standard error of regression = 0.837836
R squared = 0.301697  r = 0.549270

               COEF        STD ERROR     T-VALUE     P-LEVEL
B0       105.992068       27.169391    3.901157    0.001598
B1        -0.061680        0.046265   -1.333188    0.203759
B2        -7.958952        4.789281   -1.661826    0.118767
B3        -0.283444        0.289503   -0.979072    0.344161


Overall regression for pp:
R squared = 0.718974, r = 0.847924, p = 0.000000.

RESULTS OF REGRESSION FOR VARIABLE INT:
DIVISION #1, BETWEEN 0.00 AND 35.00 (n = 20).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.029356
R squared = 0.396324  r = 0.629543

               COEF        STD ERROR     T-VALUE     P-LEVEL
B0         1.483693
B1        -0.002344        0.000682   -3.437633    0.002936
```



```
Variables not in model:

          PARTIAL CORR     TOLERANCE          R-SQ       F-VALUE       P-LEVEL    NEW WEIGHT
S'_(n-0 )     0.340617      0.458921      0.070038      2.231204      0.153577      0.000000
S'_(n-1 )     0.434261      0.316973      0.113843      3.950989      0.063197      0.149763
S'_(n-2 )     0.617103      0.959202      0.229890     10.455495      0.004882      0.212819
S'_(n-3 )     0.411023      0.932422      0.101985      3.455800      0.080430      0.141749
S'_(n-4 )     0.032030      0.647886      0.000619      0.017458      0.896434      0.000000
S'_(n-5 )     0.457717      0.631532      0.126473      4.505504      0.048773      0.157852
S'_(n-6 )     0.511420      0.913512      0.157892      6.021204      0.025217      0.176372
S'_(n-7 )     0.066014      0.996119      0.002631      0.074407      0.788311      0.000000
S'_(n-8 )     0.295349      0.678470      0.052659      1.624652      0.219592      0.000000
S'_(n-9 )     0.468138      0.976050      0.132298      4.771243      0.043237      0.161446
S'_(n-10)     0.028274      0.981624      0.000483      0.013601      0.908524      0.000000

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.021865
R squared = 0.683710  r = 0.826868

               COEF        STD ERROR     T-VALUE     P-LEVEL
B0         1.494175
B1        -0.002391        0.000508   -4.706162    0.000204
B2        -0.018022        0.004586   -3.930199    0.001079

Variables not in model:

                PARTIAL CORR     TOLERANCE          R-SQ       F-VALUE       P-LEVEL    NEW WEIGHT
(S'_(n-0 ))^2       0.157797      0.444257      0.007876      0.408569      0.531742      0.000000
(S'_(n-1 ))^2       0.109013      0.281058      0.003759      0.192429      0.666768      0.000000
(S'_(n-2 ))^2       0.337187      0.483725      0.035961      2.052479      0.171207      0.492841
(S'_(n-3 ))^2       0.201495      0.931350      0.012841      0.677091      0.422685      0.000000
(S'_(n-4 ))^2       0.011029      0.964836      0.000038      0.001947      0.965354      0.000000
(S'_(n-5 ))^2       0.180642      0.252095      0.010321      0.539718      0.473180      0.000000
(S'_(n-6 ))^2       0.250107      0.719781      0.019785      1.067637      0.316846      0.000000
(S'_(n-7 ))^2       0.030425      0.805034      0.000293      0.014825      0.904608      0.000000
(S'_(n-8 ))^2       0.239697      0.788094      0.018172      0.975306      0.338061      0.000000
(S'_(n-9 ))^2       0.054262      0.600531      0.000931      0.047249      0.830668      0.000000
(S'_(n-10))^2       0.346983      0.686901      0.038080      2.190022      0.158328      0.507159

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum[w_i, (S'_(i-n))^2)
Standard error of regression = 0.019568
R squared = 0.761573  r = 0.872682

               COEF        STD ERROR     T-VALUE     P-LEVEL
B0         1.495518
```

my2

B1	-0.001787	0.000526	-3.397523	0.003679
B2	-0.008875	0.005732	-1.548289	0.141103
B3	-0.005202	0.002276	-2.285856	0.036238

RESULTS OF REGRESSION FOR VARIABLE INT:
DIVISION #2, BETWEEN 35.00 AND 60.00 (n = 13).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.026460
R squared = 0.702203 r = 0.837975

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	1.191686			
B1	0.005340	0.001048	5.092926	0.000348

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.564068	0.309980	0.094751	4.666479	0.056090	0.313392
S'_(n-1)	0.374504	0.751684	0.041767	1.631333	0.230376	0.000000
S'_(n-2)	0.621749	0.566902	0.115120	6.301831	0.030894	0.345439
S'_(n-3)	0.422091	0.813075	0.053056	2.167825	0.171686	0.000000
S'_(n-4)	0.614064	0.965740	0.112292	6.053300	0.033657	0.341169
S'_(n-5)	0.145150	0.898433	0.006274	0.215219	0.652641	0.000000
S'_(n-6)	0.327398	0.984380	0.031921	1.200585	0.298891	0.000000
S'_(n-7)	0.385864	0.874143	0.044339	1.749374	0.215404	0.000000
S'_(n-8)	0.201611	0.984910	0.012105	0.423690	0.529774	0.000000
S'_(n-9)	0.191265	0.859465	0.010894	0.379713	0.551525	0.000000
S'_(n-10)	0.067939	0.960447	0.001375	0.046371	0.833832	0.000000

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.016713
R squared = 0.891990 r = 0.944452

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	1.141213			
B1	0.006361	0.000706	9.014389	0.000004
B2	-0.021863	0.005216	-4.191802	0.001853

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.382690	0.515467	0.015818	1.544223	0.245391	0.000000
(S'_(n-1))^2	0.026166	0.452370	0.000074	0.006166	0.939129	0.000000
(S'_(n-2))^2	0.216906	0.487974	0.005082	0.444338	0.521755	0.000000
(S'_(n-3))^2	0.278912	0.422825	0.008402	0.759185	0.406225	0.000000
(S'_(n-4))^2	0.280088	0.512894	0.008473	0.766149	0.404165	0.000000
(S'_(n-5))^2	0.007448	0.999647	0.000006	0.000499	0.982660	0.000000
(S'_(n-6))^2	0.019293	0.670311	0.000040	0.003351	0.955102	0.000000
(S'_(n-7))^2	0.044070	0.735446	0.000210	0.017513	0.897629	0.000000
(S'_(n-8))^2	0.372010	0.870805	0.014948	1.445576	0.259917	0.000000
(S'_(n-9))^2	0.233288	0.657265	0.005878	0.518000	0.489963	0.000000
(S'_(n-10))^2	0.443234	0.833279	0.021219	2.200386	0.172127	1.000000

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum{w_i, (S'_(i-n))^2}
Standard error of regression = 0.015792
R squared = 0.913209 r = 0.955620

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	1.138221			
B1	0.006246	0.000671	9.306070	0.000006
B2	-0.024535	0.005247	-4.675894	0.001159
B3	0.002314	0.001560	1.483370	0.172127

RESULTS OF REGRESSION FOR VARIABLE INT:
DIVISION #3, BETWEEN 60.00 AND 100.00 (n = 26).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.025049
R squared = 0.091499 r = 0.302488

	COEF	STD ERROR	T-VALUE	P-LEVEL

my2

```
B0          1.564529
B1         -0.000586        0.000377  -1.554715   0.133103

Variables not in model:

            PARTIAL CORR     TOLERANCE         R-SQ       F-VALUE       P-LEVEL    NEW WEIGHT
S'_(n-0 )       0.420496      0.838454     0.160638      4.940316      0.036350      0.163845
S'_(n-1 )       0.342453      0.625894     0.106543      3.055646      0.093796      0.133435
S'_(n-2 )       0.183323      0.964909     0.030532      0.799845      0.380403      0.000000
S'_(n-3 )       0.510170      0.674369     0.236458      8.092557      0.009174      0.198786
S'_(n-4 )       0.588136      0.912334     0.314254     12.163007      0.001987      0.229165
S'_(n-5 )       0.352054      0.974286     0.112601      3.253970      0.084365      0.137176
S'_(n-6 )       0.002793      0.832854     0.000007      0.000179      0.989430      0.000000
S'_(n-7 )       0.353123      0.998501     0.113286      3.276582      0.083361      0.137593
S'_(n-8 )       0.334552      0.985596     0.101684      2.898706      0.102130      0.000000
S'_(n-9 )       0.096417      0.999673     0.008446      0.215820      0.646611      0.000000
S'_(n-10)       0.153481      0.997749     0.021401      0.554869      0.463879      0.000000

Partial results of regression (step #2).

Variables in: resp, sum(v_i S'_(i-n)].
Standard error of regression = 0.017977
R squared = 0.551568   r = 0.742676

               COEF        STD ERROR     T-VALUE     P-LEVEL
B0          1.562457
B1         -0.000494         0.000271  -1.820185   0.081770
B2         -0.019531         0.004021  -4.857658   0.000066

Variables not in model:

                PARTIAL CORR     TOLERANCE         R-SQ       F-VALUE       P-LEVEL    NEW WEIGHT
(S'_(n-0 ))^2       0.009412      0.536887     0.000040      0.001949      0.965185      0.000000
(S'_(n-1 ))^2       0.054608      0.900478     0.001337      0.065801      0.799936      0.000000
(S'_(n-2 ))^2       0.344741      0.862771     0.053295      2.967277      0.098995      0.451031
(S'_(n-3 ))^2       0.419600      0.995126     0.078953      4.701098      0.041233      0.548969
(S'_(n-4 ))^2       0.052515      0.297176     0.001237      0.060839      0.807462      0.000000
(S'_(n-5 ))^2       0.327023      0.995697     0.047957      2.634520      0.118807      0.000000
(S'_(n-6 ))^2       0.070654      0.856867     0.002239      0.110375      0.742862      0.000000
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(S'_(n-7 ))^2       0.146229      0.821291     0.009589      0.480705      0.495359      0.000000
(S'_(n-8 ))^2       0.015516      0.727065     0.000108      0.005298      0.942634      0.000000
(S'_(n-9 ))^2       0.063992      0.888162     0.001836      0.090459      0.766419      0.000000
(S'_(n-10))^2       0.286828      0.997548     0.036893      1.972207      0.174175      0.000000

Final results of regression (step #3).

Variables in: resp, sum(v_i S'_(i-n)], sum(w_i, (S'_(i-n)]^2)
Standard error of regression = 0.018132
R squared = 0.563638   r = 0.750758

               COEF        STD ERROR     T-VALUE     P-LEVEL
B0          1.563713
B1         -0.000452         0.000279  -1.620533   0.119364
B2         -0.020091         0.004118  -4.878394   0.000071
B3         -0.002010         0.002576  -0.780082   0.443655

OVERALL REGRESSION FOR INT:
REGRESSION EQUATION = I_n = b0 + b1 (phi) + b2 SUM(v S') + b3 SUM (w S'^2)
R squared = 0.897418, r = 0.947322, p = 0.000000.

RESULTS OF REGRESSION FOR VARIABLE P1:
DIVISION #1, BETWEEN 0.00 AND 35.00 (n = 20).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.001263
R squared = 0.330638   r = 0.575012

               COEF        STD ERROR     T-VALUE     P-LEVEL
B0          0.047558
B1          0.000087         0.000029   2.981827   0.007995

Variables not in model:

            PARTIAL CORR     TOLERANCE         R-SQ       F-VALUE       P-LEVEL    NEW WEIGHT
S'_(n-0 )       0.293949      0.458921     0.057837      1.607831      0.221889      0.000000
S'_(n-1 )       0.281011      0.316973     0.052858      1.457544      0.243851      0.000000
S'_(n-2 )       0.253677      0.959202     0.043075      1.169224      0.294662      0.000000
S'_(n-3 )       0.435628      0.932422     0.127026      3.981744      0.062277      0.228446
S'_(n-4 )       0.419410      0.647886     0.117744      3.628694      0.073852      0.219941
S'_(n-5 )       0.346545      0.631532     0.080386      2.320226      0.146087      0.000000
S'_(n-6 )       0.305950      0.913512     0.062656      1.755631      0.202705      0.000000
S'_(n-7 )       0.134034      0.996119     0.012025      0.310993      0.584341      0.000000
S'_(n-8 )       0.527321      0.678470     0.186127      6.547894      0.020334      0.276530
S'_(n-9 )       0.053967      0.976050     0.001949      0.049656      0.826319      0.000000
S'_(n-10)       0.524559      0.981624     0.184183      6.453532      0.021124      0.275082

Partial results of regression (step #2).
```

my2

```
Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.001280
R squared = 0.350589  r = 0.592106

                COEF        STD ERROR     T-VALUE     P-LEVEL
```



```
B0          0.047460
B1          0.000095         0.000031    3.019421    0.007728
B2          0.000281         0.000389    0.722675    0.479704

Variables not in model:

                PARTIAL CORR     TOLERANCE          R-SQ       F-VALUE       P-LEVEL    NEW WEIGHT
(S'_(n-0 ))^2       0.318962      0.514632      0.066069      1.812147      0.197015      0.000000
(S'_(n-1 ))^2       0.260803      0.292592      0.044172      1.167718      0.295890      0.000000
(S'_(n-2 ))^2       0.089900      0.962878      0.005249      0.130365      0.722777      0.000000
(S'_(n-3 ))^2       0.086028      0.853256      0.004806      0.119295      0.734299      0.000000
(S'_(n-4 ))^2       0.033546      0.985782      0.000731      0.018025      0.894873      0.000000
(S'_(n-5 ))^2       0.453798      0.503846      0.133735      4.149427      0.058544      0.498323
(S'_(n-6 ))^2       0.053359      0.790491      0.001849      0.045686      0.833448      0.000000
(S'_(n-7 ))^2       0.224999      0.544910      0.032876      0.853187      0.369373      0.000000
(S'_(n-8 ))^2       0.106404      0.612728      0.007353      0.183224      0.674323      0.000000
(S'_(n-9 ))^2       0.227533      0.884182      0.033621      0.873563      0.363863      0.000000
(S'_(n-10))^2       0.456853      0.764200      0.135542      4.220263      0.056656      0.501677

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum(w_i, [S'_(i-n)]^2}
Standard error of regression = 0.001319
R squared = 0.351024  r = 0.592473

                COEF        STD ERROR     T-VALUE     P-LEVEL
B0          0.047390
B1          0.000095         0.000033    2.886715    0.010733
B2          0.000276         0.000404    0.684557    0.503420
B3          0.000015         0.000150    0.103606    0.918770

RESULTS OF REGRESSION FOR VARIABLE P1:
DIVISION #2, BETWEEN 35.00 AND 65.00 (n = 17).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.001204
R squared = 0.785068  r = 0.886041

                COEF        STD ERROR     T-VALUE     P-LEVEL
B0          0.061596
B1         -0.000277         0.000037   -7.401998    0.000002

Variables not in model:

           PARTIAL CORR     TOLERANCE          R-SQ       F-VALUE       P-LEVEL    NEW WEIGHT
S'_(n-0 )       0.219665      0.570187      0.010371      0.709786      0.413677      0.000000
S'_(n-1 )       0.260586      0.615314      0.014595      1.019926      0.329674      0.000000
S'_(n-2 )       0.356852      0.477035      0.027370      2.042966      0.174845      0.000000
S'_(n-3 )       0.565668      0.901606      0.068774      6.587641      0.022383      0.522699
S'_(n-4 )       0.163250      0.987660      0.005728      0.383324      0.545773      0.000000
S'_(n-5 )       0.300487      0.817286      0.019407      1.389558      0.258127      0.000000
S'_(n-6 )       0.306851      0.956603      0.020237      1.455224      0.247682      0.000000
S'_(n-7 )       0.137220      0.948716      0.004047      0.268669      0.612321      0.000000
S'_(n-8 )       0.516537      0.987681      0.057346      5.094656      0.040505      0.477301
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```
S'_(n-9 )       0.290747      0.939779      0.018169      1.292753      0.274628      0.000000
S'_(n-10)       0.271464      0.996800      0.015839      1.113773      0.309136      0.000000

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.000846
R squared = 0.900817  r = 0.949114

                COEF        STD ERROR     T-VALUE     P-LEVEL
B0          0.062437
B1         -0.000297         0.000027  -11.103131    0.000000
B2          0.000775         0.000192    4.042054    0.001212

Variables not in model:

                PARTIAL CORR     TOLERANCE          R-SQ       F-VALUE       P-LEVEL    NEW WEIGHT
(S'_(n-0 ))^2       0.141590      0.922306      0.001988      0.265954      0.614717      0.000000
(S'_(n-1 ))^2       0.209994      0.538372      0.004374      0.599714      0.452542      0.000000
```

my2

(S'_(n-2))^2	0.322173	0.718704	0.010295	1.505615	0.241568	0.000000
(S'_(n-3))^2	0.023988	0.340170	0.000057	0.007485	0.932375	0.000000
(S'_(n-4))^2	0.293217	0.979765	0.008527	1.222822	0.288852	0.000000
(S'_(n-5))^2	0.369209	0.810944	0.013520	2.051788	0.175633	0.000000
(S'_(n-6))^2	0.116804	0.649687	0.001353	0.179814	0.678466	0.000000
(S'_(n-7))^2	0.354454	0.905639	0.012461	1.867975	0.194879	0.000000
(S'_(n-8))^2	0.201022	0.667385	0.004008	0.547449	0.472513	0.000000
(S'_(n-9))^2	0.530467	0.981612	0.027910	5.090622	0.041921	1.000000
(S'_(n-10))^2	0.202952	0.953135	0.004085	0.558467	0.468181	0.000000

Final results of regression (step #3).

Variables in: resp, sum(v_1 S'_(i-n)], sum(w_1, [S'_(i-n)]^2)
Standard error of regression = 0.000745
R squared = 0.928726 r = 0.963705

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.063134			
B1	-0.000305	0.000024	-12.810714	0.000000
B2	0.000783	0.000169	4.638290	0.000464
B3	-0.000159	0.000070	-2.256241	0.041921

RESULTS OF REGRESSION FOR VARIABLE P1:
DIVISION #3, BETWEEN 65.00 AND 100.00 (n = 22).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.001379
R squared = 0.247160 r = 0.497152

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.040049			
B1	0.000074	0.000029	2.562432	0.018573

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.061968	0.643533	0.002891	0.073242	0.789592	0.000000
S'_(n-1)	0.019676	0.881523	0.000291	0.007358	0.932538	0.000000
S'_(n-2)	0.010996	0.998669	0.000091	0.002298	0.962268	0.000000
S'_(n-3)	0.058955	0.734157	0.002617	0.066268	0.799617	0.000000
S'_(n-4)	0.164500	0.996845	0.020372	0.528442	0.476124	0.000000
S'_(n-5)	0.498524	0.995825	0.187100	6.283639	0.021435	1.000000
S'_(n-6)	0.234090	0.932428	0.041254	1.101523	0.307099	0.000000
S'_(n-7)	0.164148	0.981950	0.020285	0.526120	0.477082	0.000000
S'_(n-8)	0.282162	0.999426	0.059938	1.643550	0.215262	0.000000
S'_(n-9)	0.251061	0.970636	0.047453	1.278169	0.272310	0.000000
S'_(n-10)	0.069695	0.998189	0.003657	0.092742	0.764030	0.000000

Partial results of regression (step #2).

Variables in: resp, sum(v_1 S'_(i-n)].
Standard error of regression = 0.001226
R squared = 0.434260 r = 0.658984

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.040657			
B1	0.000070	0.000026	2.713099	0.013794
B2	0.000378	0.000151	2.506719	0.021435

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.064696	0.701717	0.002368	0.075658	0.786403	0.000000
(S'_(n-1))^2	0.162111	0.964000	0.014868	0.485804	0.494709	0.000000
(S'_(n-2))^2	0.365716	0.877920	0.075667	2.779179	0.112802	0.508099
(S'_(n-3))^2	0.138694	0.987390	0.010883	0.353037	0.559793	0.000000
(S'_(n-4))^2	0.048713	0.819932	0.001342	0.042815	0.838397	0.000000
(S'_(n-5))^2	0.167959	0.994302	0.015960	0.522525	0.479055	0.000000
(S'_(n-6))^2	0.354057	0.936201	0.070919	2.579814	0.125635	0.491901
(S'_(n-7))^2	0.329219	0.953595	0.061318	2.188091	0.156370	0.000000
(S'_(n-8))^2	0.046150	0.756524	0.001205	0.038419	0.846799	0.000000
(S'_(n-9))^2	0.053097	0.735967	0.001595	0.050892	0.824061	0.000000
(S'_(n-10))^2	0.241707	0.952117	0.033052	1.116852	0.304575	0.000000

Final results of regression (step #3).

Variables in: resp, sum(v_1 S'_(i-n)], sum(w_1, [S'_(i-n)]^2)
Standard error of regression = 0.001259
R squared = 0.434464 r = 0.659139

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.040674			
B1	0.000070	0.000027	2.630570	0.016971
B2	0.000378	0.000155	2.435896	0.025474
B3	-0.000015	0.000186	-0.080524	0.936709

OVERALL REGRESSION FOR P1:
REGRESSION EQUATION = 1/P1 = b0 + b1 (phi) + b2 SUM(v S') + b3 SUM (w S'^2)

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R squared = 0.787636, r = 0.887488, p = 0.000000.

RESULTS OF REGRESSION FOR VARIABLE P2:

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DIVISION #1, BETWEEN 0.00 AND 27.00 (n = 12).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.001334
R squared = 0.578876 r = 0.760839

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.023613			
B1	-0.000176	0.000047	-3.707559	0.004058

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.124564	0.232113	0.006534	0.141847	0.715177	0.000000
S'_(n-1)	0.175057	0.444688	0.012905	0.284522	0.606672	0.000000
S'_(n-2)	0.050691	0.987634	0.001082	0.023186	0.882334	0.000000
S'_(n-3)	0.184871	0.987010	0.014393	0.318480	0.586310	0.000000
S'_(n-4)	0.510581	0.850076	0.109784	3.173555	0.108528	1.000000
S'_(n-5)	0.322535	0.446361	0.043809	1.044966	0.333360	0.000000
S'_(n-6)	0.085203	0.983964	0.003057	0.065814	0.803300	0.000000
S'_(n-7)	0.235830	0.891908	0.023421	0.530020	0.485107	0.000000
S'_(n-8)	0.259287	0.785943	0.028312	0.648680	0.441343	0.000000
S'_(n-9)	0.124417	0.994884	0.006519	0.141506	0.715503	0.000000
S'_(n-10)	0.055314	0.983985	0.001288	0.027621	0.871677	0.000000

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.001209
R squared = 0.688660 r = 0.829855

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.024185			
B1	-0.000208	0.000047	-4.461377	0.001574
B2	-0.000504	0.000283	-1.781447	0.108528

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.346377	0.276449	0.037354	1.090670	0.326850	0.000000
(S'_(n-1))^2	0.014346	0.202940	0.000064	0.001647	0.968624	0.000000
(S'_(n-2))^2	0.108795	0.998187	0.003685	0.095825	0.764808	0.000000
(S'_(n-3))^2	0.091583	0.589646	0.002611	0.067668	0.801333	0.000000
(S'_(n-4))^2	0.108652	0.698243	0.003675	0.095569	0.765111	0.000000
(S'_(n-5))^2	0.419038	0.379425	0.054669	1.703944	0.228062	0.000000
(S'_(n-6))^2	0.156991	0.944391	0.007673	0.202151	0.664922	0.000000
(S'_(n-7))^2	0.471089	0.612915	0.069094	2.281786	0.169345	0.000000
(S'_(n-8))^2	0.379390	0.511042	0.044813	1.345105	0.279577	0.000000
(S'_(n-9))^2	0.542822	0.945424	0.091738	3.341978	0.104941	1.000000
(S'_(n-10))^2	0.306468	0.584887	0.029242	0.829267	0.389098	0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum{w_i, [S'_(i-n)]^2}

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Standard error of regression = 0.001077
R squared = 0.780398 r = 0.883401

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.025015			
B1	-0.000223	0.000042	-5.275235	0.000751
B2	-0.000489	0.000252	-1.941384	0.088158
B3	-0.000134	0.000073	-1.828108	0.104941

RESULTS OF REGRESSION FOR VARIABLE P2:
DIVISION #2, BETWEEN 27.00 AND 88.00 (n = 36).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.001504
R squared = 0.242595 r = 0.492539

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.018268			
B1	0.000045	0.000014	3.300018	0.002276

my2

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.626564	0.485015	0.297344	21.328362	0.000057	0.312582
S'_(n-1)	0.051048	0.947094	0.001974	0.086220	0.770877	0.000000
S'_(n-2)	0.336768	0.474758	0.085899	4.221383	0.047906	0.168008
S'_(n-3)	0.593367	0.985718	0.266671	17.932595	0.000172	0.296021
S'_(n-4)	0.019710	0.739108	0.000294	0.012825	0.910522	0.000000
S'_(n-5)	0.216248	0.866611	0.035419	1.618884	0.212140	0.000000
S'_(n-6)	0.447781	0.821274	0.151865	8.276190	0.006989	0.223390
S'_(n-7)	0.279247	0.907660	0.059062	2.790942	0.104258	0.000000
S'_(n-8)	0.020110	0.992833	0.000306	0.013351	0.908714	0.000000
S'_(n-9)	0.161265	0.863891	0.019697	0.881127	0.354713	0.000000
S'_(n-10)	0.252827	0.996118	0.048414	2.253444	0.142826	0.000000

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.001059
R squared = 0.635433 r = 0.797140

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.018290			
B1	0.000052	0.000010	5.366031	0.000006
B2	-0.001008	0.000169	-5.963139	0.000001

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.059156	0.950083	0.001276	0.112376	0.739643	0.000000
(S'_(n-1))^2	0.093062	0.887312	0.003157	0.279559	0.600639	0.000000
(S'_(n-2))^2	0.142862	0.958413	0.007441	0.666709	0.420238	0.504317
(S'_(n-3))^2	0.078079	0.592343	0.002223	0.196280	0.660721	0.000000
(S'_(n-4))^2	0.049823	0.907123	0.000905	0.079631	0.779615	0.000000

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(S'_(n-5))^2	0.140416	0.782806	0.007188	0.643621	0.428321	0.495683
(S'_(n-6))^2	0.055172	0.681989	0.001110	0.097702	0.756633	0.000000
(S'_(n-7))^2	0.003438	0.863136	0.000004	0.000378	0.984603	0.000000
(S'_(n-8))^2	0.050194	0.883418	0.000918	0.080824	0.778015	0.000000
(S'_(n-9))^2	0.082162	0.972756	0.002461	0.217488	0.644120	0.000000
(S'_(n-10))^2	0.000691	0.769242	0.000000	0.000015	0.996906	0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum[w_i, [S'_(i-n)]^2]
Standard error of regression = 0.001059
R squared = 0.646864 r = 0.804278

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.018481			
B1	0.000053	0.000010	5.436708	0.000006
B2	-0.001044	0.000173	-6.049210	0.000001
B3	-0.000090	0.000089	-1.017752	0.316429

RESULTS OF REGRESSION FOR VARIABLE P2:
DIVISION #3, BETWEEN 88.00 AND 100.00 (n = 11).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.001221
R squared = 0.251833 r = 0.501830

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.046434			
B1	-0.000253	0.000145	-1.740519	0.115757

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.031685	0.554471	0.000751	0.008039	0.930759	0.000000
S'_(n-1)	0.156417	0.929979	0.018305	0.200640	0.666086	0.000000
S'_(n-2)	0.284818	0.833553	0.060692	0.706266	0.425089	0.000000
S'_(n-3)	0.139315	0.885001	0.014521	0.158343	0.701094	0.000000
S'_(n-4)	0.373863	0.729985	0.104574	1.299874	0.287218	0.000000
S'_(n-5)	0.566895	0.958817	0.240438	3.788455	0.087478	0.479932
S'_(n-6)	0.110345	0.999004	0.009110	0.098609	0.761538	0.000000
S'_(n-7)	0.162890	0.989986	0.019851	0.218050	0.652984	0.000000
S'_(n-8)	0.054578	0.929354	0.002229	0.023902	0.880965	0.000000
S'_(n-9)	0.614303	0.989798	0.282334	4.848679	0.058813	0.520068
S'_(n-10)	0.125344	0.993773	0.011754	0.127695	0.730078	0.000000

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.000894
R squared = 0.643898 r = 0.802433

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.051781			

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B1          -0.000311          0.000108   -2.874494    0.020686
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B2          -0.000566          0.000191   -2.967815    0.017931

Variables not in model:

                PARTIAL CORR     TOLERANCE         R-SQ       F-VALUE       P-LEVEL    NEW WEIGHT
(S'_(n-0 ))^2       0.217287      0.925017     0.016813      0.346873      0.574395      0.000000
(S'_(n-1 ))^2       0.120862      0.784041     0.005202      0.103769      0.756759      0.000000
(S'_(n-2 ))^2       0.051167      0.588985     0.000932      0.018374      0.895991      0.000000
(S'_(n-3 ))^2       0.274591      0.885720     0.026850      0.570841      0.474575      0.000000
(S'_(n-4 ))^2       0.001133      0.437259     0.000000      0.000009      0.997693      0.000000
(S'_(n-5 ))^2       0.355936      0.711718     0.045115      1.015487      0.347149      0.000000
(S'_(n-6 ))^2       0.439161      0.823831     0.068679      1.672622      0.236949      0.000000
(S'_(n-7 ))^2       0.089909      0.798338     0.002879      0.057047      0.818068      0.000000
(S'_(n-8 ))^2       0.050559      0.517493     0.000910      0.017939      0.897221      0.000000
(S'_(n-9 ))^2       0.587851      0.776510     0.123058      3.696315      0.095965      0.422591
(S'_(n-10))^2       0.803213      0.955607     0.229740     12.726747      0.009128      0.577409

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum(w_i, [S'_(i-n)]^2)
Standard error of regression = 0.000728
R squared = 0.793278  r = 0.890662

                COEF        STD ERROR     T-VALUE     P-LEVEL
B0          0.051122
B1         -0.000293          0.000088   -3.316360    0.012829
B2         -0.000470          0.000161   -2.911463    0.022613
B3         -0.000363          0.000161   -2.249064    0.059280

OVERALL REGRESSION FOR P2:
REGRESSION EQUATION = 1/P2 = b0 + b1 (phi) + b2 SUM(v S') + b3 SUM (w S'^2)
R squared = 0.732458, r = 0.855838, p = 0.000000.

Results of detrending for pp :
Division #1, between 0.00 and 45.00 (n = 28).
Detrending equation: PP = b0 + b1 (PHI)
Standard error of regression = 0.630961
R squared = 0.466925  r = 0.683319

                COEF        STD ERROR     T-VALUE     P-LEVEL
B0          0.487298          0.282921    1.722385    0.096438
B1         -0.048103          0.009891   -4.863077    0.000044


Results of detrending for pp :
Division #2, between 45.00 and 77.00 (n = 22).
Detrending equation: PP = b0 + b1 (PHI)
Standard error of regression = 0.941882
R squared = 0.577806  r = 0.760135

                COEF        STD ERROR     T-VALUE     P-LEVEL
B0         -7.080185          1.425247   -4.967690    0.000074
B1          0.118893          0.022725    5.231784    0.000040


Results of detrending for pp :
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Division #3, between 77.00 and 100.00 (n = 18).
Detrending equation: PP = b0 + b1 (PHI)
Standard error of regression = 0.870527
R squared = 0.138447  r = 0.372084

                COEF        STD ERROR     T-VALUE     P-LEVEL
B0          6.212336          3.342139    1.858791    0.081550
B1         -0.058035          0.036194   -1.603469    0.128386


Overall detrending for pp:
R squared = 0.626209, r = 0.791333, p = 0.000000.

Results of detrending for int :
Division #1, between 0.00 and 35.00 (n = 20).
Detrending equation: INT = b0 + b1 (PHI)
Standard error of regression = 0.028320
R squared = 0.380236  r = 0.616633

                COEF        STD ERROR     T-VALUE     P-LEVEL
B0          0.007128          0.014973    0.476073    0.638938
B1         -0.002267          0.000632   -3.589411    0.001726
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my2

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Results of detrending for int :
Division #2, between 35.00 and 60.00 (n = 13).
Detrending equation: INT = b0 + b1 (PHI)
Standard error of regression = 0.028924
R squared = 0.699120   r = 0.836134

               COEF        STD ERROR     T-VALUE     P-LEVEL
B0         -0.309951         0.051311   -6.040617   0.000030
B1          0.005816         0.001020    5.703523   0.000055


Results of detrending for int :
Division #3, between 60.00 and 100.00 (n = 26).
Detrending equation: INT = b0 + b1 (PHI)
Standard error of regression = 0.026796
R squared = 0.092581   r = 0.304272

               COEF        STD ERROR     T-VALUE     P-LEVEL
B0          0.096333         0.031825    3.026996   0.005254
B1         -0.000642         0.000380   -1.690194   0.102096


Overall detrending for int:
R squared = 0.746328, r = 0.863903, p = 0.000000.

Results of detrending for p1 :
Division #1, between 0.00 and 35.00 (n = 20).
Detrending equation: P1 = b0 + b1 (PHI)
Standard error of regression = 0.663533
R squared = 0.222876   r = 0.472098

               COEF        STD ERROR     T-VALUE     P-LEVEL




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B0         -0.067764         0.350826   -0.193155   0.848693
B1         -0.036322         0.014800   -2.454122   0.022936


Results of detrending for p1 :
Division #2, between 35.00 and 65.00 (n = 17).
Detrending equation: P1 = b0 + b1 (PHI)
Standard error of regression = 0.601591
R squared = 0.728859   r = 0.853733

               COEF        STD ERROR     T-VALUE     P-LEVEL
B0         -5.936357         0.900126   -6.595027   0.000003
B1          0.118715         0.017066    6.956022   0.000002


Results of detrending for p1 :
Division #3, between 65.00 and 100.00 (n = 22).
Detrending equation: P1 = b0 + b1 (PHI)
Standard error of regression = 0.660682
R squared = 0.270641   r = 0.520232

               COEF        STD ERROR     T-VALUE     P-LEVEL
B0          3.719153         1.065195    3.491523   0.001881
B1         -0.036688         0.012294   -2.984225   0.006443


Overall detrending for p1:
R squared = 0.658483, r = 0.811470, p = 0.000000.

Results of detrending for p2 :
Division #1, between 0.00 and 27.00 (n = 12).
Detrending equation: P2 = b0 + b1 (PHI)
Standard error of regression = 2.965874
R squared = 0.564197   r = 0.751130

               COEF        STD ERROR     T-VALUE     P-LEVEL
B0         -6.077134         1.844644   -3.294475   0.006406
B1          0.408499         0.103641    3.941494   0.001958


Results of detrending for p2 :
Division #2, between 27.00 and 88.00 (n = 36).
Detrending equation: P2 = b0 + b1 (PHI)
Standard error of regression = 3.568329
R squared = 0.273804   r = 0.523262

               COEF        STD ERROR     T-VALUE     P-LEVEL
B0          7.110306         1.736654    4.094255   0.000194
B1         -0.115838         0.029462   -3.931736   0.000318


Results of detrending for p2 :
Division #3, between 88.00 and 100.00 (n = 11).
Detrending equation: P2 = b0 + b1 (PHI)
Standard error of regression = 2.346396
R squared = 0.257190   r = 0.507139
```

my2

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	-50.515990	25.645440	-1.969784	0.077172
B1	0.498639	0.267977	1.860750	0.092401

Overall detrending for p2:
R squared = 0.406561, r = 0.637621, p = 0.000000.

Results of linear model for pp :
Linear model equation: PP = b0 + b1 (I_n-1) + b2 (D_n)
Standard error of linear model = 0.772096
R squared = 0.038313 r = 0.195736

	COEF	STD ERROR	T-VALUE	P
B0	79.150068	9.196886	8.606181	0.000000
B1	-3.495396	3.769310	-0.927331	0.357186
B2	-0.111640	0.071950	-1.551631	0.125606

Overall results of linear modelling of pp
after retrending: R-squared = 0.642709, r = 0.801691.

Results of linear model for int :
Linear model equation: INT = b0 + b1 (S_n) + ... + b(1+m) (S_n-m)
Standard error of linear model = 0.018412
R squared = 0.552683 r = 0.743427

	COEF	STD ERROR	T-VALUE	P
B0	4.274129	0.529261	8.075651	0.000000
B1	0.002131	0.002201	0.968135	0.336863
B2	-0.002984	0.002173	-1.372797	0.174925
B3	-0.004236	0.002225	-1.904169	0.061686
B4	-0.007472	0.002452	-3.046905	0.003434
B5	-0.008519	0.002321	-3.669695	0.000518
B6	-0.003063	0.002349	-1.304057	0.197195
B7	-0.001175	0.002333	-0.503570	0.616408
B8	-0.001282	0.002404	-0.533414	0.595717
B9	0.003887	0.002263	1.717782	0.090994
B10	-0.000149	0.002202	-0.067557	0.946363
B11	0.003414	0.002239	1.525174	0.132470

Overall results of linear modelling of int
after retrending: R-squared = 0.887378, r = 0.942008.

Results of linear model for p1 :
Linear model equation: P1 = b0 + b1 (S_n) + ... + b(1+m) (S_n-m)
Standard error of linear model = 0.516442
R squared = 0.217442 r = 0.466306

	COEF	STD ERROR	T-VALUE	P
B0	46.122308	14.845151	3.106894	0.002887
B1	0.047945	0.061748	0.776459	0.440528
B2	0.033863	0.060963	0.555462	0.580644
B3	0.070386	0.062402	1.127940	0.263836

B4	-0.145546	0.068783	-2.116007	0.038503
B5	-0.046609	0.065113	-0.715817	0.476881
B6	-0.114176	0.065874	-1.733265	0.088185
B7	0.046114	0.065446	0.704603	0.483783
B8	0.032909	0.067419	0.488126	0.627240
B9	-0.012247	0.063473	-0.192942	0.847656
B10	-0.016385	0.061776	-0.265226	0.791744
B11	-0.070345	0.062792	-1.120284	0.267057

Overall results of linear modelling of p1
after retrending: R-squared = 0.769627, r = 0.877284.

Results of linear model for p2 :
Linear model equation: P2 = b0 + b1 (S_n) + ... + b(1+m) (S_n-m)
Standard error of linear model = 2.623690
R squared = 0.368762 r = 0.607258

	COEF	STD ERROR	T-VALUE	P
B0	-268.747939	75.418141	-3.563439	0.000725
B1	0.777687	0.313698	2.479096	0.015999
B2	-0.089056	0.309711	-0.287546	0.774685
B3	0.104584	0.317023	0.329894	0.742629
B4	-0.044150	0.349442	-0.126344	0.899882
B5	0.194911	0.330797	0.589215	0.557929

my2

B6	0.676888	0.334659	2.022620	0.047576
B7	0.419451	0.332488	1.261553	0.211992
B8	0.172748	0.342510	0.504360	0.615856
B9	-0.131564	0.322463	-0.407995	0.684729
B10	-0.006527	0.313843	-0.020798	0.983476
B11	0.123009	0.319005	0.385601	0.701156

Overall results of linear modelling of p2
after retrending: R-squared = 0.631083, r = 0.794407.

Results of linear model for diast :
Linear model equation: D_n+1 = b0 + b1(D) + b2(D') + b3(D'') + b4(PP) + b5(INT) + b6(P1) + b7(P2)
Standard error of linear model = 1.284175
R squared = 0.239496 r = 0.489383

	COEF	STD ERROR	T-VALUE	P
B0	121.338125	22.814196	5.318536	0.000002
B1	-0.075366	0.152248	-0.495020	0.622394
B2	0.008077	0.038622	0.209142	0.835046
B3	0.000139	0.001955	0.071122	0.943537
B4	-0.322643	0.230668	-1.398733	0.167041
B5	-21.126770	6.605384	-3.198417	0.002208
B6	0.668876	0.274688	2.435037	0.017880
B7	0.043497	0.057975	0.750278	0.456020

Results of linear model for ddiast :
Linear model equation: D'_n+1 = b0 + b1(D) + b2(D') + b3(D'') + b4(PP) + b5(INT) + b6(P1) + b7(P2)
Standard error of linear model = 22.167713
R squared = 0.182779 r = 0.427526

	COEF	STD ERROR	T-VALUE	P
B0	661.418916	393.823615	1.679480	0.098259
B1	-4.517367	2.628133	-1.718850	0.090798
B2	-0.335090	0.666702	-0.502609	0.617079
B3	0.007770	0.033739	0.230300	0.818642
B4	-6.480114	3.981843	-1.627416	0.108890
B5	81.530852	114.023575	0.715035	0.477361
B6	-1.800411	4.741727	-0.379695	0.705512
B7	-0.462098	1.000771	-0.461742	0.645936

Results of linear model for dddiast :
Linear model equation: D''_n+1 = b0 + b1(D) + b2(D') + b3(D'') + b4(PP) + b5(INT) + b6(P1) + b7(P2)
Standard error of linear model = 409.888598
R squared = 0.196980 r = 0.443825

	COEF	STD ERROR	T-VALUE	P
B0	12187.371980	7281.933425	1.673645	0.099407
B1	-84.962247	48.595077	-1.748371	0.085515
B2	-1.544321	12.327544	-0.125274	0.900725
B3	-0.164346	0.623846	-0.263441	0.793113
B4	-111.617455	73.625635	-1.516013	0.134767
B5	2065.253874	2108.334935	0.979566	0.331234
B6	-50.827972	87.676157	-0.579724	0.564271
B7	-11.600899	18.504601	-0.626920	0.533090

Results of windkessel model for diast :
Overall results for diast:
R-squared = 0.603278, r = 0.776710.

NONLINEAR FORECAST RESULTS (In-sample, n = 49):

STEP	PP	INT	P1	P2	DIAST
0	0.904962	0.953418	0.888767	0.841682	1.000000
1	-0.172220	0.866856	0.855170	0.625564	0.455241
2	-0.283903	0.712543	0.760043	0.438966	0.183676
3	-0.141060	0.662022	0.788652	0.467539	0.132140
4	-0.237325	0.565187	0.543301	0.514210	0.230060
5	-0.465660	0.208802	0.325481	0.380790	0.136487
6	-0.458891	0.300596	0.517502	0.235596	-0.114850
7	-0.216912	0.342358	0.347369	0.149980	-0.154007
8	-0.278198	0.089117	-0.007504	-0.010308	-0.083633
9	-0.254306	-0.001373	-0.156173	-0.096398	-0.180392
10	-0.286008	0.073269	-0.080161	0.097572	-0.332593

NONLINEAR FORECAST RESULTS (Out-of-sample, n = 18):

STEP	PP	INT	P1	P2	DIAST
0	0.272190	0.210030	0.447554	0.211479	1.000000
1	-0.460975	-0.087205	0.370373	0.136204	-0.263780
2	-0.301487	0.154031	0.256436	0.338187	-0.545704
3	-0.376604	0.078548	0.189608	0.270000	-0.546303
4	-0.303259	-0.230848	-0.114490	-0.012043	-0.476115
5	0.123793	-0.051434	0.011431	-0.171204	-0.556472
6	0.081320	-0.241534	-0.055875	-0.289806	-0.406551
7	-0.130009	-0.482035	0.091550	-0.208437	-0.172786

my2

8	-0.252320	-0.170376	0.011427	-0.343694	-0.487463
9	0.206759	-0.268276	-0.309047	-0.109271	-0.315602
10	0.667957	-0.584413	-0.243878	-0.014880	0.088411

LINEAR FORECAST RESULTS (In-sample, n = 49):

STEP	PP	INT	P1	P2	DIAST
0	0.014194	-0.000325	-0.003244	0.106314	1.000000
1	0.006052	-0.039311	0.039220	0.027204	0.328740
2	0.066229	0.031120	0.104882	0.032709	0.463006
3	-0.014891	-0.035629	0.037588	-0.019345	0.435011
4	0.029910	-0.037582	0.038300	0.031287	0.227250
5	0.037268	-0.045836	0.094506	-0.060885	0.222535
6	0.082571	-0.080624	0.097387	-0.141315	0.394814
7	0.104824	-0.088325	0.062875	-0.192861	0.450427
8	0.059614	-0.085273	0.055454	-0.087654	0.243136
9	0.097706	-0.119488	0.028476	-0.107337	0.282405
10	0.133662	-0.140030	0.060777	-0.129868	0.101392

LINEAR FORECAST RESULTS (Out-of-sample, n = 18):

STEP	PP	INT	P1	P2	DIAST
0	0.338822	0.259629	0.423615	0.240967	1.000000
1	0.422688	0.095007	0.289677	0.389039	-0.404635
2	0.128154	0.173655	0.166582	0.340341	-0.120301
3	-0.083833	-0.050234	0.062377	0.245091	-0.095531
4	-0.237298	-0.012147	0.007476	0.227575	-0.480260
5	-0.320339	0.140093	0.178445	0.142553	-0.617941
6	-0.260901	-0.021902	-0.126832	0.192082	-0.080408
7	-0.171753	-0.093687	-0.133038	0.117909	-0.053793
8	-0.143695	-0.247006	-0.450849	-0.001248	-0.104631
9	-0.043025	-0.125328	-0.246324	-0.014860	0.447776
10	-0.175821	-0.208322	-0.166893	-0.366237	0.494146

Error analysis for long forecast into file nl16.00:
Errors in p1: 0
Errors in p2: 0
Errors in p5: 0
Post inflection adjustment in p5: 5

my5

In-sample data for beats 1 through 200 (n = 192):

BEATNO	TIME	INT	DIAS	DIAS'	DIAS''	SYST	PP	P1	P2	P3	P4	P5	P6	RESP
AVG	765.513	0.922	63.68	-16.78	12.65	108.95	45.27	21.41	42.20	393.60	102681.69	56.14	12.56	51.65
STDDEV	51.113	0.048	2.10	21.80	397.30	4.59	3.04	1.67	4.10	32.97	9465.43	2.24	11.90	31.56

Out-of-sample data for beats 201 through 388 (n = 186):

BEATNO	TIME	INT	DIAS	DIAS'	DIAS''	SYST	PP	P1	P2	P3	P4	P5	P6	RESP
AVG	950.116	0.927	64.55	-19.40	14.43	115.84	51.29	23.38	45.30	450.97	113692.60	56.22	12.68	53.34
STDDEV	50.091	0.058	2.62	19.93	385.13	5.40	3.42	3.42	4.31	61.79	9718.74	2.23	11.96	28.36

Results of regression for p3 :
Regression equation: P3 = b0 + b1 (P1) + b2 (P1)^2
Standard error of regression = 26.940242
R squared = 0.339375 r = 0.582559

	COEF	STD ERROR	T-VALUE	P
B0	890.672365	196.578560	4.530872	0.000010
B1	-55.535584	17.696269	-3.138265	0.001972
B2	1.490591	0.397643	3.748566	0.000236

Results of regression for p4 :
Regression equation: P4 = b0 + b1 (PP)
Standard error of regression = 5665.692966
R squared = 0.643593 r = 0.802243

	COEF	STD ERROR	T-VALUE	P
B0	-10251.718199	6110.648625	-1.677681	0.095054
B1	2494.657515	134.679461	18.522925	0.000000

Results of regression for p5 :
Regression equation: P5 = b0 + b1 (P2) + b2 (P2)^2 + b3 (P2)^3
Standard error of regression = 1.834081
R squared = 0.337837 r = 0.581237

	COEF	STD ERROR	T-VALUE	P
B0	-213.087520	65.527674	-3.251871	0.001359
B1	17.300271	4.475676	3.865398	0.000153
B2	-0.370623	0.101189	-3.662665	0.000324
B3	0.002656	0.000757	3.508615	0.000564

Results of regression for p6 :
Regression equation: P6 = b0 + b1 (P1)
Standard error of regression = 11.852628
R squared = 0.013657 r = 0.116863

	COEF	STD ERROR	T-VALUE	P
B0	-5.724417	11.305611	-0.506334	0.613209
B1	0.834383	0.514427	1.621965	0.106469

Results of regression for pp :
Division #1, between 0.00 and 30.00 (n = 57).
Regression equation: PP = b0 + b1 (PHI) + b2 (I_n-1) + b3 (D)
Standard error of regression = 2.119014
R squared = 0.340076 r = 0.583161

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	-11.751473	12.066831	-0.973866	0.334547
B1	-0.075151	0.031894	-2.356320	0.022187
B2	13.064656	6.812507	1.917746	0.060539
B3	0.718192	0.148187	4.846522	0.000011

Results of regression for pp :
Division #2, between 30.00 and 60.00 (n = 57).
Regression equation: PP = b0 + b1 (PHI) + b2 (I_n-1) + b3 (D)
Standard error of regression = 2.277553
R squared = 0.535511 r = 0.731786

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	-41.298023	16.097357	-2.565516	0.013167
B1	0.124595	0.032494	3.834423	0.000336
B2	15.156939	7.871600	1.925522	0.059537
B3	1.033310	0.175108	5.900986	0.000000

Results of regression for pp :
Division #3, between 60.00 and 100.00 (n = 75).

my5

Regression equation: PP = b0 + b1 (PHI) + b2 (I_n-1) + b3 (D)
Standard error of regression = 1.835900
R squared = 0.638231 r = 0.798893

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	-45.639380	8.307004	-5.494084	0.000001
B1	-0.027097	0.018484	-1.465950	0.147077
B2	32.656035	5.066633	6.445312	0.000000
B3	1.006447	0.097778	10.293162	0.000000

Overall regression for pp:
R squared = 0.542677, r = 0.736666, p = 0.000000.

RESULTS OF REGRESSION FOR VARIABLE INT:
DIVISION #1, BETWEEN 0.00 AND 25.00 (n = 33).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.036811
R squared = 0.079058 r = 0.281173

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.925676			
B1	-0.001193	0.000731	-1.631316	0.112943

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.304487	0.994054	0.085382	3.065578	0.090188	0.450485
S'_(n-1)	0.130601	0.916037	0.015708	0.520579	0.476181	0.000000
S'_(n-2)	0.284583	0.764814	0.074585	2.643739	0.114419	0.000000
S'_(n-3)	0.269632	0.997259	0.066954	2.352047	0.135598	0.000000
S'_(n-4)	0.201055	0.934341	0.037227	1.263784	0.269851	0.000000
S'_(n-5)	0.204745	0.837173	0.038606	1.312638	0.260975	0.000000
S'_(n-6)	0.237977	0.998254	0.052156	1.800993	0.189662	0.000000
S'_(n-7)	0.371422	0.987582	0.127048	4.800943	0.036347	0.549515
S'_(n-8)	0.097424	0.803296	0.008741	0.287473	0.595798	0.000000
S'_(n-9)	0.134254	0.990987	0.016599	0.550648	0.463824	0.000000
S'_(n-10)	0.067140	0.999601	0.004151	0.135846	0.715034	0.000000

Partial results of regression (step #2).

Variables in: resp, sum[v_1 S'_(i-n)].
Standard error of regression = 0.034104
R squared = 0.234992 r = 0.484759

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.926043			
B1	-0.001387	0.000682	-2.034106	0.050866
B2	0.004720	0.001909	2.472848	0.019293

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.325955	0.930791	0.081280	3.447428	0.073535	0.187358
(S'_(n-1))^2	0.314033	0.610574	0.075442	3.172765	0.085353	0.180506
(S'_(n-2))^2	0.374575	0.657932	0.107336	4.732953	0.037884	0.215305
(S'_(n-3))^2	0.377316	0.805516	0.106912	4.814024	0.036391	0.216881
(S'_(n-4))^2	0.347860	0.448734	0.092571	3.992286	0.055164	0.199950
(S'_(n-5))^2	0.234784	0.589971	0.042170	1.691840	0.203600	0.000000
(S'_(n-6))^2	0.242625	0.795900	0.045034	1.813919	0.188470	0.000000
(S'_(n-7))^2	0.044151	0.507555	0.001491	0.056640	0.813561	0.000000
(S'_(n-8))^2	0.034105	0.573845	0.000890	0.033772	0.855472	0.000000
(S'_(n-9))^2	0.052536	0.792482	0.002111	0.080262	0.778956	0.000000
(S'_(n-10))^2	0.001847	0.730981	0.000003	0.000099	0.992130	0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_1 S'_(i-n)], sum(w_1, [S'_(i-n)]^2)
Standard error of regression = 0.032134
R squared = 0.343455 r = 0.586050

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.920230			
B1	-0.001625	0.000652	-2.492475	0.018647
B2	0.002061	0.002170	0.949515	0.350205
B3	0.000609	0.000278	2.188807	0.036811

RESULTS OF REGRESSION FOR VARIABLE INT:
DIVISION #2, BETWEEN 25.00 AND 60.00 (n = 76).

my5

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.043020
R squared = 0.252411 r = 0.502405

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.822753			
B1	0.001898	0.000380	4.998487	0.000004

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.065138	0.837144	0.003172	0.311060	0.578737	0.000000
S'_(n-1)	0.096239	0.969363	0.006924	0.682442	0.411439	0.000000
S'_(n-2)	0.076163	0.984400	0.004337	0.425932	0.516042	0.000000
S'_(n-3)	0.118001	0.901374	0.010410	1.030817	0.313320	0.000000
S'_(n-4)	0.065374	0.988990	0.003195	0.313323	0.577362	0.000000
S'_(n-5)	0.197723	0.983324	0.029227	2.970013	0.089055	0.272923
S'_(n-6)	0.135070	0.911959	0.013639	1.356564	0.247926	0.000000
S'_(n-7)	0.152263	0.984205	0.017332	1.732593	0.192198	0.000000
S'_(n-8)	0.279300	0.998755	0.058318	6.176432	0.015237	0.385525
S'_(n-9)	0.176240	0.937900	0.023221	2.340110	0.130403	0.000000
S'_(n-10)	0.247443	0.999694	0.045773	4.761166	0.032328	0.341552

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.041645
R squared = 0.308919 r = 0.555804

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.821315			
B1	0.001884	0.000368	5.122794	0.000002
B2	0.003436	0.001406	2.443148	0.016979

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.168744	0.998558	0.013678	2.110253	0.150659	0.000000
(S'_(n-1))^2	0.265975	0.981120	0.048889	5.481223	0.021994	0.116046
(S'_(n-2))^2	0.282928	0.900275	0.055320	6.264950	0.014585	0.123442
(S'_(n-3))^2	0.287113	0.984551	0.056969	6.468467	0.013129	0.125268
(S'_(n-4))^2	0.318668	0.959659	0.070179	8.137944	0.005655	0.139036
(S'_(n-5))^2	0.332397	0.781212	0.076356	8.943245	0.003810	0.145026
(S'_(n-6))^2	0.303549	0.881699	0.063677	7.307537	0.008561	0.132439
(S'_(n-7))^2	0.267930	0.933640	0.049610	5.568368	0.021002	0.116899
(S'_(n-8))^2	0.233428	0.653801	0.037656	4.149265	0.045330	0.101845
(S'_(n-9))^2	0.186704	0.782378	0.024090	2.600463	0.111208	0.000000
(S'_(n-10))^2	0.136007	0.872187	0.012784	1.356959	0.247910	0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum(w_i, (S'_(i-n)]^2)
Standard error of regression = 0.039352
R squared = 0.391367 r = 0.625593

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.812950			
B1	0.001810	0.000348	5.196245	0.000002
B2	0.002086	0.001397	1.492796	0.139860
B3	0.000791	0.000253	3.123059	0.002578

RESULTS OF REGRESSION FOR VARIABLE INT:
DIVISION #3, BETWEEN 60.00 AND 100.00 (n = 73).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.043585
R squared = 0.032109 r = 0.179188

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.892704			
B1	0.000627	0.000409	1.534708	0.129300

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.158396	0.997339	0.024284	1.801450	0.183874	0.000000
S'_(n-1)	0.225747	0.923117	0.049325	3.758870	0.056560	0.142046
S'_(n-2)	0.137963	0.972187	0.018423	1.358224	0.247801	0.000000
S'_(n-3)	0.266538	0.988750	0.068762	5.353307	0.023624	0.167713
S'_(n-4)	0.371373	0.902948	0.133490	11.198773	0.001319	0.233678
S'_(n-5)	0.374258	0.987547	0.135571	11.401858	0.001201	0.235493
S'_(n-6)	0.351337	0.999800	0.119474	9.857392	0.002477	0.221070
S'_(n-7)	0.146922	0.908119	0.020893	1.544369	0.218115	0.000000

my5

S'_(n-8)	0.132995	0.999936	0.017120	1.260432	0.265405	0.000000
S'_(n-9)	0.174330	0.991083	0.029415	2.194050	0.143032	0.000000
S'_(n-10)	0.165676	0.929911	0.026567	1.975620	0.164276	0.000000

Partial results of regression (step #2).

Variables in: resp, sum(v_i S'_(i-n)].
Standard error of regression = 0.040943
R squared = 0.157931 r = 0.397405

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.904676			
B1	0.000483	0.000387	1.248389	0.216048
B2	0.004229	0.001308	3.234107	0.001863

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.330103	0.852535	0.091758	8.438281	0.004933	0.223672
(S'_(n-1))^2	0.332222	0.887556	0.092941	8.560480	0.004647	0.225108
(S'_(n-2))^2	0.328272	0.960491	0.090744	8.333683	0.005192	0.222431
(S'_(n-3))^2	0.279632	0.789527	0.065845	5.853073	0.018190	0.189474
(S'_(n-4))^2	0.205607	0.875870	0.035598	3.045669	0.085405	0.139315
(S'_(n-5))^2	0.162110	0.977986	0.022129	1.862236	0.176801	0.000000
(S'_(n-6))^2	0.112558	0.767686	0.010668	0.885405	0.350008	0.000000

(S'_(n-7))^2	0.081908	0.829163	0.005649	0.466042	0.497099	0.000000
(S'_(n-8))^2	0.123012	0.954832	0.012742	1.060143	0.306778	0.000000
(S'_(n-9))^2	0.113225	0.819312	0.010795	0.896058	0.347144	0.000000
(S'_(n-10))^2	0.007568	0.836583	0.000048	0.003952	0.950056	0.000000

Final results of regression (step #3).

Variables in: resp, sum(v_i S'_(i-n)], sum(w_i, [S'_(i-n)]^2)
Standard error of regression = 0.038656
R squared = 0.260077 r = 0.509978

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.891457			
B1	0.000498	0.000365	1.363408	0.177186
B2	0.002859	0.001312	2.178962	0.032752
B3	0.000649	0.000210	3.086335	0.002916

OVERALL REGRESSION FOR INT:
REGRESSION EQUATION = I_n = b0 + b1 (phi) + b2 SUM(v S') + b3 SUM (w S'^2)
R squared = 0.439280, r = 0.662782, p = 0.000000.

RESULTS OF REGRESSION FOR VARIABLE P1:
DIVISION #1, BETWEEN 0.00 AND 30.00 (n = 54).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.003427
R squared = 0.025216 r = 0.158796

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.046497			
B1	0.000060	0.000052	1.159814	0.251422

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.294064	0.996654	0.084293	4.827600	0.032576	0.322077
S'_(n-1)	0.197856	0.989477	0.038160	2.077839	0.155564	0.000000
S'_(n-2)	0.363133	0.887956	0.128541	7.746682	0.007528	0.397727
S'_(n-3)	0.255824	0.999920	0.063796	3.571489	0.064470	0.280195
S'_(n-4)	0.077380	0.999434	0.005837	0.307208	0.581821	0.000000
S'_(n-5)	0.095522	0.935829	0.008894	0.469628	0.496261	0.000000
S'_(n-6)	0.019383	0.997075	0.000366	0.019168	0.890430	0.000000
S'_(n-7)	0.084649	0.996308	0.006985	0.368074	0.546747	0.000000
S'_(n-8)	0.057622	0.906176	0.003237	0.169897	0.681931	0.000000
S'_(n-9)	0.120560	0.995084	0.014168	0.752199	0.389843	0.000000
S'_(n-10)	0.228038	0.998181	0.050690	2.797532	0.100534	0.000000

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.003260
R squared = 0.134461 r = 0.366690

	COEF	STD ERROR	T-VALUE	P-LEVEL

B0	0.046930			
B1	0.000044	0.000050	0.885181	0.380213
B2	0.000318	0.000125	2.537130	0.014278

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.247073	0.983113	0.052837	3.250689	0.077421	0.273696
(S'_(n-1))^2	0.144178	0.706096	0.017992	1.061422	0.307849	0.000000
(S'_(n-2))^2	0.148764	0.761801	0.019155	1.131573	0.292551	0.000000
(S'_(n-3))^2	0.184328	0.966542	0.029408	1.758589	0.190827	0.000000
(S'_(n-4))^2	0.067569	0.671373	0.003952	0.229324	0.634113	0.000000
(S'_(n-5))^2	0.137033	0.759554	0.016253	0.956866	0.332687	0.000000
(S'_(n-6))^2	0.055692	0.955865	0.002685	0.155563	0.694952	0.000000
(S'_(n-7))^2	0.217018	0.748288	0.040764	2.471227	0.122255	0.000000
(S'_(n-8))^2	0.315174	0.785879	0.085978	5.514508	0.022855	0.349135
(S'_(n-9))^2	0.215453	0.926619	0.040178	2.433997	0.125038	0.000000
(S'_(n-10))^2	0.340481	0.818299	0.100339	6.556429	0.013517	0.377169

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum{w_i, [S'_(i-n)]^2}
Standard error of regression = 0.003206
R squared = 0.179247 r = 0.423376

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.047669			
B1	0.000046	0.000049	0.936383	0.353577
B2	0.000410	0.000135	3.030861	0.003856
B3	-0.000052	0.000032	-1.651770	0.104849

RESULTS OF REGRESSION FOR VARIABLE P1:
DIVISION #2, BETWEEN 30.00 AND 60.00 (n = 55).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.003167
R squared = 0.191641 r = 0.437768

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.052824			
B1	-0.000151	0.000043	-3.544699	0.000831

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.246004	0.815712	0.048920	3.349647	0.072954	0.174807
S'_(n-1)	0.217329	0.996117	0.038180	2.577810	0.114428	0.000000
S'_(n-2)	0.138551	0.940264	0.015518	1.017746	0.317726	0.000000
S'_(n-3)	0.110581	0.861136	0.009885	0.643739	0.426012	0.000000
S'_(n-4)	0.041081	0.996808	0.001364	0.087906	0.768038	0.000000
S'_(n-5)	0.198299	0.936395	0.031787	2.128471	0.150599	0.000000
S'_(n-6)	0.212092	0.886824	0.036363	2.449301	0.123643	0.000000
S'_(n-7)	0.281598	0.998823	0.064101	4.478622	0.039127	0.200100
S'_(n-8)	0.372674	0.982999	0.112270	8.386906	0.005516	0.264818

S'_(n-9)	0.240093	0.874794	0.046598	3.180892	0.080340	0.170607
S'_(n-10)	0.266917	0.983327	0.057591	3.988921	0.051046	0.189668

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.003108
R squared = 0.236175 r = 0.485979

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.051994			
B1	-0.000134	0.000043	-3.125022	0.002907
B2	-0.000221	0.000127	-1.741221	0.087559

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.067171	0.913683	0.003446	0.231152	0.632727	0.000000
(S'_(n-1))^2	0.007593	0.974235	0.000044	0.002941	0.956966	0.000000
(S'_(n-2))^2	0.061511	0.843941	0.002890	0.193694	0.661719	0.000000
(S'_(n-3))^2	0.044615	0.863896	0.001520	0.101718	0.751081	0.000000
(S'_(n-4))^2	0.035685	0.972162	0.000973	0.065027	0.799746	0.000000
(S'_(n-5))^2	0.014085	0.752760	0.000152	0.010119	0.920267	0.000000
(S'_(n-6))^2	0.187915	0.741688	0.026972	1.866841	0.177832	0.000000
(S'_(n-7))^2	0.195684	0.944889	0.029249	2.030664	0.160245	0.000000
(S'_(n-8))^2	0.158624	0.649960	0.019219	1.316370	0.256598	0.000000
(S'_(n-9))^2	0.174904	0.679244	0.023366	1.609389	0.210338	0.000000
(S'_(n-10))^2	0.237293	0.896338	0.043009	3.043051	0.087108	1.000000

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum{w_i, [S'_(i-n)]^2}
Standard error of regression = 0.003048

R squared = 0.279185 r = 0.528379

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.052628			
B1	-0.000136	0.000042	-3.223336	0.002211
B2	-0.000148	0.000132	-1.127955	0.264617
B3	-0.000031	0.000018	-1.744434	0.087108

RESULTS OF REGRESSION FOR VARIABLE P1:
DIVISION #3, BETWEEN 60.00 AND 90.00 (n = 43).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.003014
R squared = 0.012511 r = 0.111854

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.042420			
B1	0.000031	0.000043	0.720737	0.475161

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.043818	0.985475	0.001896	0.076947	0.782907	0.000000
S'_(n-1)	0.122953	0.899870	0.014928	0.613974	0.437911	0.000000
S'_(n-2)	0.118515	0.999435	0.013870	0.569836	0.454746	0.000000
S'_(n-3)	0.019216	0.924989	0.000365	0.014775	0.903862	0.000000
S'_(n-4)	0.018075	0.850457	0.000323	0.013073	0.909544	0.000000
S'_(n-5)	0.066683	0.991215	0.004391	0.178658	0.674793	0.000000
S'_(n-6)	0.174088	0.908793	0.029927	1.250155	0.270193	0.000000
S'_(n-7)	0.207563	0.732285	0.042543	1.800875	0.187175	0.000000
S'_(n-8)	0.388770	0.981346	0.149251	7.122154	0.010945	0.397345
S'_(n-9)	0.289065	0.983756	0.082513	3.647093	0.063357	0.295441
S'_(n-10)	0.300584	0.786156	0.089220	3.972987	0.053087	0.307214

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.002833
R squared = 0.148536 r = 0.385404

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.040407			
B1	0.000058	0.000041	1.395227	0.170646
B2	-0.000338	0.000134	-2.527875	0.015528

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.429779	0.955054	0.157274	8.835731	0.005041	0.612511
(S'_(n-1))^2	0.271888	0.981559	0.062943	3.113132	0.085495	0.387489
(S'_(n-2))^2	0.256550	0.962643	0.056042	2.747753	0.105415	0.000000
(S'_(n-3))^2	0.152874	0.795440	0.019899	0.933257	0.339971	0.000000
(S'_(n-4))^2	0.046841	0.859518	0.001868	0.085758	0.771193	0.000000
(S'_(n-5))^2	0.038626	0.878786	0.001270	0.058272	0.810512	0.000000
(S'_(n-6))^2	0.026985	0.580194	0.000620	0.028420	0.866995	0.000000
(S'_(n-7))^2	0.064451	0.671531	0.003537	0.162678	0.688906	0.000000
(S'_(n-8))^2	0.179562	0.790111	0.027453	1.299355	0.261284	0.000000
(S'_(n-9))^2	0.037600	0.508900	0.001204	0.055215	0.815454	0.000000
(S'_(n-10))^2	0.063818	0.671576	0.003468	0.159486	0.691809	0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum(w_i, [S'_(i-n)]^2)
Standard error of regression = 0.002653
R squared = 0.272163 r = 0.521693

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.039523			
B1	0.000059	0.000039	1.519772	0.136635
B2	-0.000398	0.000127	-3.120695	0.003390
B3	0.000037	0.000014	2.573786	0.013974

RESULTS OF REGRESSION FOR VARIABLE P1:
DIVISION #4, BETWEEN 90.00 AND 100.00 (n = 30).

Partial results of regression (step #1).

Variables in: resp.

my5

Standard error of regression = 0.003300
R squared = 0.080372 r = 0.283499

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.010223			
B1	0.000373	0.000238	1.564314	0.128977

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.067128	0.961868	0.004144	0.122219	0.729352	0.000000
S'_(n-1)	0.028230	0.969436	0.000733	0.021534	0.884423	0.000000
S'_(n-2)	0.054703	0.950981	0.002752	0.081037	0.778070	0.000000
S'_(n-3)	0.079375	0.960090	0.005794	0.171190	0.682324	0.000000
S'_(n-4)	0.224676	0.964907	0.046422	1.435402	0.241296	0.000000
S'_(n-5)	0.398137	0.994588	0.145773	5.086068	0.032431	0.160460
S'_(n-6)	0.313219	0.975728	0.090221	2.937007	0.098031	0.126235
S'_(n-7)	0.354293	0.960609	0.115435	3.875623	0.059337	0.142789
S'_(n-8)	0.464486	0.984860	0.198407	7.427680	0.011134	0.187200
S'_(n-9)	0.451911	0.957863	0.187810	6.929133	0.013853	0.182132
S'_(n-10)	0.499184	0.926435	0.229157	8.960901	0.005838	0.201184

Partial results of regression (step #2).

Variables in: resp, sum(v_i S'_(i-n)].
Standard error of regression = 0.002986
R squared = 0.273591 r = 0.523060

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.020381			
B1	0.000262	0.000219	1.195379	0.242333
B2	-0.000399	0.000149	-2.679892	0.012394

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.369859	0.927559	0.099369	4.120325	0.052720	0.525572
(S'_(n-1))^2	0.298873	0.918354	0.064887	2.550262	0.122360	0.000000
(S'_(n-2))^2	0.210274	0.833006	0.032118	1.202771	0.282823	0.000000
(S'_(n-3))^2	0.201002	0.951063	0.029348	1.094671	0.305068	0.000000
(S'_(n-4))^2	0.135763	0.908272	0.013389	0.488224	0.490924	0.000000
(S'_(n-5))^2	0.146005	0.947029	0.015485	0.566329	0.458481	0.000000
(S'_(n-6))^2	0.103651	0.998565	0.007804	0.282366	0.599665	0.000000
(S'_(n-7))^2	0.131918	0.761781	0.012641	0.460477	0.503397	0.000000
(S'_(n-8))^2	0.112966	0.995008	0.009270	0.336084	0.567089	0.000000
(S'_(n-9))^2	0.270468	0.909305	0.053139	2.052096	0.163911	0.000000
(S'_(n-10))^2	0.333868	0.607640	0.080971	3.261736	0.082505	0.474428

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum(w_i, [S'_(i-n)]^2}
Standard error of regression = 0.003033
R squared = 0.278514 r = 0.527744

	COEF	STD ERROR	T-VALUE	P-LEVEL

B0	0.021676			
B1	0.000246	0.000226	1.086639	0.287169
B2	-0.000436	0.000175	-2.490060	0.019491
B3	0.000013	0.000031	0.421164	0.677097

OVERALL REGRESSION FOR P1:
REGRESSION EQUATION = 1/P1 = b0 + b1 (ph1) + b2 SUM(v S') + b3 SUM (w S'^2)
R squared = 0.333549, r = 0.577537, p = 0.000000.

RESULTS OF REGRESSION FOR VARIABLE P2:
DIVISION #1, BETWEEN 0.00 AND 25.00 (n = 33).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.001591
R squared = 0.263368 r = 0.513194

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.024487			
B1	-0.000105	0.000032	-3.329177	0.002257

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.010873	0.994054	0.000087	0.003547	0.952905	0.000000
S'_(n-1)	0.375720	0.916037	0.103987	4.931074	0.034076	0.083238
S'_(n-2)	0.330290	0.764814	0.080360	3.673484	0.064854	0.073173
S'_(n-3)	0.371589	0.997259	0.101713	4.805951	0.036257	0.082323
S'_(n-4)	0.507164	0.934341	0.189473	10.388579	0.003051	0.112359
S'_(n-5)	0.558867	0.837173	0.230074	13.625740	0.000885	0.123813
S'_(n-6)	0.541568	0.998254	0.216051	12.450569	0.001369	0.119981
S'_(n-7)	0.479906	0.987582	0.169653	8.976710	0.005443	0.106320
S'_(n-8)	0.559633	0.803296	0.230705	13.680162	0.000868	0.123983
S'_(n-9)	0.444047	0.990987	0.145247	7.368158	0.010899	0.098376

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S'_(n-10)      0.345008      0.999601      0.087682      4.053402      0.053130      0.076434

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.001343
R squared = 0.491832   r = 0.701307

                 COEF        STD ERROR     T-VALUE     P-LEVEL
B0          0.024277
B1         -0.000079         0.000028   -2.875143    0.007359
B2         -0.000276         0.000075   -3.672537    0.000931

Variables not in model:

               PARTIAL CORR     TOLERANCE          R-SQ       F-VALUE       P-LEVEL    NEW WEIGHT
(S'_(n-0 ))^2      0.251936      0.908540      0.032254      1.965435      0.171547      0.000000
(S'_(n-1 ))^2      0.413046      0.612942      0.086697      5.965345      0.020919      0.246160
(S'_(n-2 ))^2      0.434700      0.667385      0.096026      6.756747      0.014536      0.259065
(S'_(n-3 ))^2      0.400600      0.823332      0.081551      5.543550      0.025532      0.238743
(S'_(n-4 ))^2      0.429610      0.454060      0.093790      6.563844      0.015867      0.256032




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(S'_(n-5 ))^2      0.209294      0.547063      0.022260      1.328506      0.258484      0.000000
(S'_(n-6 ))^2      0.098838      0.791827      0.004964      0.286095      0.596812      0.000000
(S'_(n-7 ))^2      0.101358      0.419548      0.005221      0.301021      0.587443      0.000000
(S'_(n-8 ))^2      0.139346      0.440829      0.009867      0.574253      0.454688      0.000000
(S'_(n-9 ))^2      0.121062      0.752757      0.007448      0.431345      0.516508      0.000000
(S'_(n-10))^2      0.059739      0.704043      0.001814      0.103864      0.749553      0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum(w_i, [S'_(i-n)]^2)
Standard error of regression = 0.001224
R squared = 0.592174   r = 0.769528

                 COEF        STD ERROR     T-VALUE     P-LEVEL
B0          0.023924
B1         -0.000082         0.000025   -3.264016    0.002816
B2         -0.000416         0.000086   -4.825035    0.000041
B3          0.000027         0.000010    2.671170    0.012265

RESULTS OF REGRESSION FOR VARIABLE P2:
DIVISION #2, BETWEEN 25.00 AND 60.00 (n = 76).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.002301
R squared = 0.124744   r = 0.353191

                 COEF        STD ERROR     T-VALUE     P-LEVEL
B0          0.020553
B1          0.000066         0.000020    3.247562    0.001751

Variables not in model:

             PARTIAL CORR     TOLERANCE          R-SQ       F-VALUE       P-LEVEL    NEW WEIGHT
S'_(n-0 )       0.026221      0.837144      0.000602      0.050226      0.823296      0.000000
S'_(n-1 )       0.176658      0.969363      0.027315      2.351568      0.129480      0.000000
S'_(n-2 )       0.417878      0.984400      0.152839     15.444300      0.000191      0.105139
S'_(n-3 )       0.300039      0.901374      0.078793      7.221836      0.008914      0.075490
S'_(n-4 )       0.373335      0.988990      0.121992     11.822462      0.000970      0.093932
S'_(n-5 )       0.531733      0.983324      0.247470     28.776179      0.000001      0.133785
S'_(n-6 )       0.554707      0.911959      0.269316     32.445621      0.000000      0.139565
S'_(n-7 )       0.472169      0.984205      0.195133     20.944308      0.000019      0.118798
S'_(n-8 )       0.470912      0.998755      0.194095     20.801185      0.000020      0.118482
S'_(n-9 )       0.478907      0.937900      0.200742     21.725494      0.000014      0.120494
S'_(n-10)       0.374863      0.999694      0.122993     11.935287      0.000921      0.094316

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.001972
R squared = 0.365517   r = 0.604580

                 COEF        STD ERROR     T-VALUE     P-LEVEL
B0          0.020191
B1          0.000077         0.000018    4.365466    0.000041




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B2         -0.000356         0.000068   -5.263271    0.000001

Variables not in model:
```

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.210594	0.998918	0.028139	3.341386	0.071701	1.000000
(S'_(n-1))^2	0.122957	0.977148	0.009592	1.105237	0.296635	0.000000
(S'_(n-2))^2	0.169327	0.865914	0.018192	2.125291	0.149233	0.000000
(S'_(n-3))^2	0.160752	0.981278	0.016396	1.909920	0.171245	0.000000
(S'_(n-4))^2	0.169180	0.958831	0.018160	2.121503	0.149591	0.000000
(S'_(n-5))^2	0.180915	0.746426	0.020767	2.436307	0.122940	0.000000
(S'_(n-6))^2	0.082606	0.883042	0.004330	0.494689	0.484111	0.000000
(S'_(n-7))^2	0.004956	0.928049	0.000016	0.001768	0.966576	0.000000
(S'_(n-8))^2	0.017534	0.655150	0.000195	0.022142	0.882125	0.000000
(S'_(n-9))^2	0.001905	0.793493	0.000002	0.000261	0.987146	0.000000
(S'_(n-10))^2	0.115325	0.867737	0.008439	0.970498	0.327855	0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum(w_i, [S'_(i-n)]^2)
Standard error of regression = 0.001941
R squared = 0.393656 r = 0.627420

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.019835			
B1	0.000078	0.000017	4.490706	0.000026
B2	-0.000356	0.000067	-5.337918	0.000001
B3	0.000018	0.000010	1.827946	0.071701

RESULTS OF REGRESSION FOR VARIABLE P2:
DIVISION #3, BETWEEN 60.00 AND 100.00 (n = 73).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.001838
R squared = 0.000442 r = 0.021023

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.024663			
B1	0.000003	0.000017	0.177178	0.859873

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.317970	0.997339	0.101061	7.873409	0.006491	0.052607
S'_(n-1)	0.432570	0.923117	0.187034	16.113210	0.000148	0.071567
S'_(n-2)	0.461772	0.972187	0.213139	18.971777	0.000044	0.076398
S'_(n-3)	0.486708	0.988750	0.236780	21.729278	0.000015	0.080524
S'_(n-4)	0.538177	0.902948	0.289507	28.540876	0.000001	0.089039
S'_(n-5)	0.581454	0.987547	0.337939	35.754335	0.000000	0.096199
S'_(n-6)	0.585133	0.999800	0.342229	36.444543	0.000000	0.096808
S'_(n-7)	0.670239	0.908119	0.449022	57.092498	0.000000	0.110888
S'_(n-8)	0.692763	0.999936	0.479709	64.594947	0.000000	0.114614
S'_(n-9)	0.619128	0.991083	0.383150	43.511030	0.000000	0.102432
S'_(n-10)	0.658376	0.929911	0.433268	53.556900	0.000000	0.108925

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.001383
R squared = 0.442031 r = 0.664854

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.023840			
B1	0.000013	0.000013	0.999633	0.320931
B2	-0.000354	0.000048	-7.443090	0.000000

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.372481	0.886994	0.077414	11.115381	0.001380	0.253746
(S'_(n-1))^2	0.335754	0.907164	0.062900	8.766707	0.004203	0.228727
(S'_(n-2))^2	0.267633	0.961387	0.039966	5.323598	0.024044	0.182320
(S'_(n-3))^2	0.157421	0.821420	0.013827	1.753356	0.189825	0.000000
(S'_(n-4))^2	0.027790	0.866240	0.000431	0.053328	0.818054	0.000000
(S'_(n-5))^2	0.043290	0.976525	0.001046	0.129548	0.720001	0.000000
(S'_(n-6))^2	0.032858	0.755744	0.000602	0.074576	0.785603	0.000000
(S'_(n-7))^2	0.152609	0.776183	0.012995	1.645287	0.203894	0.000000
(S'_(n-8))^2	0.161116	0.940585	0.014484	1.838857	0.179506	0.000000
(S'_(n-9))^2	0.206337	0.769601	0.023755	3.068290	0.084277	0.140563
(S'_(n-10))^2	0.285724	0.762317	0.045552	6.133779	0.015718	0.194644

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum(w_i, [S'_(i-n)]^2)
Standard error of regression = 0.001358
R squared = 0.469862 r = 0.685465

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.023506			
B1	0.000013	0.000013	1.045816	0.299296
B2	-0.000396	0.000052	-7.676326	0.000000

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B3          0.000017          0.000009    1.903249    0.061180

OVERALL REGRESSION FOR P2:
REGRESSION EQUATION = 1/P2 = b0 + b1 (phi) + b2 SUM(v S') + b3 SUM (w S'^2)
R squared = 0.521031, r = 0.721825, p = 0.000000.

Results of detrending for pp :
Division #1, between 0.00 and 30.00 (n = 57).
Detrending equation: PP = b0 + b1 (PHI)
Standard error of regression = 2.521096
R squared = 0.030625  r = 0.175001

                COEF         STD ERROR     T-VALUE     P-LEVEL
B0          0.177660          0.797465    0.222781    0.824532
B1         -0.048976          0.037154   -1.318180    0.192907


Results of detrending for pp :
Division #2, between 30.00 and 60.00 (n = 57).
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Detrending equation: PP = b0 + b1 (PHI)
Standard error of regression = 2.898872
R squared = 0.219120  r = 0.468103

                COEF         STD ERROR     T-VALUE     P-LEVEL
B0         -8.111510          1.947600   -4.164874    0.000111
B1          0.153357          0.039037    3.928537    0.000241


Results of detrending for pp :
Division #3, between 60.00 and 100.00 (n = 75).
Detrending equation: PP = b0 + b1 (PHI)
Standard error of regression = 3.002337
R squared = 0.005243  r = 0.072408

                COEF         STD ERROR     T-VALUE     P-LEVEL
B0         -0.351167          2.349387   -0.149472    0.881593
B1          0.017444          0.028122    0.620282    0.537004


Overall detrending for pp:
R squared = 0.140224, r = 0.374465, p = 0.000000.

Results of detrending for int :
Division #1, between 0.00 and 25.00 (n = 33).
Detrending equation: INT = b0 + b1 (PHI)
Standard error of regression = 0.036643
R squared = 0.099036  r = 0.314700

                COEF         STD ERROR     T-VALUE     P-LEVEL
B0          0.008675          0.012312    0.704567    0.485878
B1         -0.001370          0.000709   -1.933225    0.061571


Results of detrending for int :
Division #2, between 25.00 and 60.00 (n = 76).
Detrending equation: INT = b0 + b1 (PHI)
Standard error of regression = 0.042591
R squared = 0.255209  r = 0.505183

                COEF         STD ERROR     T-VALUE     P-LEVEL
B0         -0.099670          0.016849   -5.915456    0.000000
B1          0.001915          0.000375    5.103147    0.000002


Results of detrending for int :
Division #3, between 60.00 and 100.00 (n = 73).
Detrending equation: INT = b0 + b1 (PHI)
Standard error of regression = 0.043004
R squared = 0.031626  r = 0.177836

                COEF         STD ERROR     T-VALUE     P-LEVEL
B0         -0.028749          0.033652   -0.854296    0.395736
B1          0.000622          0.000403    1.544045    0.126902
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Overall detrending for int:
R squared = 0.259168, r = 0.509086, p = 0.000000.

Results of detrending for p1 :
Division #1, between 0.00 and 30.00 (n = 54).
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Detrending equation: P1 = b0 + b1 (PHI)
Standard error of regression = 1.445955
R squared = 0.033585 r = 0.183263

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	-0.267811	0.457380	-0.585532	0.560585
B1	-0.029461	0.021310	-1.382532	0.172397

Results of detrending for p1 :
Division #2, between 30.00 and 60.00 (n = 55).
Detrending equation: P1 = b0 + b1 (PHI)
Standard error of regression = 1.504723
R squared = 0.189391 r = 0.435191

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	-3.336221	1.010944	-3.300103	0.001700
B1	0.072637	0.020263	3.584722	0.000717

Results of detrending for p1 :
Division #3, between 60.00 and 90.00 (n = 43).
Detrending equation: P1 = b0 + b1 (PHI)
Standard error of regression = 1.546085
R squared = 0.009751 r = 0.098746

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	1.615396	1.654681	0.976258	0.334397
B1	-0.014174	0.021783	-0.650699	0.518703

Results of detrending for p1 :
Division #4, between 90.00 and 100.00 (n = 30).
Detrending equation: P1 = b0 + b1 (PHI)
Standard error of regression = 1.730198
R squared = 0.083621 r = 0.289172

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	19.075679	11.712461	1.628665	0.114585
B1	-0.199661	0.124910	-1.598446	0.121169

Overall detrending for p1:
R squared = 0.181585, r = 0.426127, p = 0.000000.

Results of detrending for p2 :
Division #1, between 0.00 and 25.00 (n = 33).
Detrending equation: P2 = b0 + b1 (PHI)
Standard error of regression = 2.970657
R squared = 0.224820 r = 0.474152

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	-1.055539	0.998153	-1.057493	0.297743
B1	0.180438	0.057461	3.140186	0.003484

Results of detrending for p2 :
Division #2, between 25.00 and 60.00 (n = 76).
Detrending equation: P2 = b0 + b1 (PHI)
Standard error of regression = 4.357447
R squared = 0.122173 r = 0.349532

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	6.423808	1.723829	3.726475	0.000371
B1	-0.124852	0.038389	-3.252292	0.001709

Results of detrending for p2 :
Division #3, between 60.00 and 100.00 (n = 73).
Detrending equation: P2 = b0 + b1 (PHI)
Standard error of regression = 3.081275
R squared = 0.000007 r = 0.002572

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	-1.819725	2.411157	-0.754710	0.452851
B1	-0.000634	0.028862	-0.021974	0.982529

Overall detrending for p2:
R squared = 0.154388, r = 0.392923, p = 0.000000.

Results of linear model for pp :
Linear model equation: PP = b0 + b1 (I_n-1) + b2 (D_n)
Standard error of linear model = 2.091160
R squared = 0.446898 r = 0.668504

	COEF	STD ERROR	T-VALUE	P
B0	-31.968350	6.539848	-4.888241	0.000002
B1	22.343099	3.749841	5.958412	0.000000
B2	0.889315	0.074388	11.955040	0.000000

my5

Overall results of linear modelling of pp
after retrending: R-squared = 0.534440, r = 0.731054.

Results of linear model for int :
Linear model equation: INT = b0 + b1 (S_n) + ... + b(1+m) (S_n-m)
Standard error of linear model = 0.033973
R squared = 0.114695 r = 0.338667

	COEF	STD ERROR	T-VALUE	P
B0	0.624684	0.093262	6.698189	0.000000
B1	-0.001124	0.001658	-0.677900	0.498691
B2	0.002507	0.002139	1.172100	0.242680
B3	-0.003195	0.002124	-1.504194	0.134255
B4	0.002014	0.002205	0.913513	0.362175
B5	-0.002919	0.002269	-1.286727	0.199815

B6	0.005432	0.002264	2.398872	0.017450
B7	0.000620	0.002237	0.277130	0.781993
B8	-0.001093	0.002175	-0.502689	0.615787
B9	-0.000731	0.002076	-0.351865	0.725345
B10	0.000687	0.002105	0.326250	0.744608
B11	0.000518	0.001649	0.314313	0.753642

Overall results of linear modelling of int
after retrending: R-squared = 0.362540, r = 0.602113.

Results of linear model for p1 :
Linear model equation: P1 = b0 + b1 (S_n) + ... + b(1+m) (S_n-m)
Standard error of linear model = 1.267498
R squared = 0.329530 r = 0.574047

	COEF	STD ERROR	T-VALUE	P
B0	14.575436	2.957220	4.928762	0.000002
B1	-0.053283	0.052558	-1.013804	0.312015
B2	0.084689	0.067828	1.248576	0.213415
B3	-0.193223	0.067343	-2.869217	0.004599
B4	-0.012381	0.069908	-0.177110	0.859618
B5	-0.112499	0.071933	-1.563947	0.119558
B6	0.116904	0.071800	1.628195	0.105204
B7	0.014916	0.070947	0.210242	0.833713
B8	0.020229	0.068966	0.293324	0.769607
B9	0.152015	0.065842	2.308798	0.022072
B10	-0.038022	0.066754	-0.569587	0.569656
B11	0.087455	0.052296	1.672314	0.096171

Overall results of linear modelling of p1
after retrending: R-squared = 0.457936, r = 0.676710.

Results of linear model for p2 :
Linear model equation: P2 = b0 + b1 (S_n) + ... + b(1+m) (S_n-m)
Standard error of linear model = 2.552030
R squared = 0.522835 r = 0.723073

	COEF	STD ERROR	T-VALUE	P
B0	-9.013664	5.954182	-1.513837	0.131792
B1	-0.632828	0.105822	-5.980123	0.000000
B2	0.131129	0.136568	0.960173	0.338235
B3	0.386483	0.135592	2.850344	0.004868
B4	0.020181	0.140756	0.143373	0.886153
B5	-0.020003	0.144832	-0.138109	0.890306
B6	-0.040564	0.144564	-0.280596	0.779337
B7	0.396913	0.142847	2.778597	0.006029
B8	-0.050890	0.139858	-0.366490	0.714423
B9	0.154279	0.132568	1.163771	0.246032
B10	-0.056666	0.134404	-0.421607	0.673806
B11	0.180339	0.105295	1.712707	0.088460

Overall results of linear modelling of p2
after retrending: R-squared = 0.634715, r = 0.796690.

Results of linear model for diast :
Linear model equation: D_n+1 = b0 + b1(D) + b2(D') + b3(D'') + b4(PP) + b5(INT) + b6(P1) + b7(P2)
Standard error of linear model = 1.119736
R squared = 0.728700 r = 0.853639

	COEF	STD ERROR	T-VALUE	P

B0	25.478807	4.462689	5.709294	0.000000
B1	0.698881	0.056761	12.312735	0.000000
B2	-0.009454	0.014333	-0.659610	0.510333
B3	0.000128	0.000762	0.168142	0.866658
B4	0.122972	0.045598	2.696872	0.007653
B5	-11.201410	2.617040	-4.280183	0.000030
B6	-0.087687	0.058958	-1.487275	0.138663
B7	0.004753	0.024253	0.195984	0.844840

Results of linear model for ddiast :
Linear model equation: D''_n+1 = b0 + b1(D) + b2(D') + b3(D'') + b4(PP) + b5(INT) + b6(P1) + b7(P2)
Standard error of linear model = 21.590616
R squared = 0.059865 r = 0.244674

	COEF	STD ERROR	T-VALUE	P
B0	-10.563469	86.049082	-0.122761	0.902431
B1	-1.190979	1.094456	-1.088193	0.277941
B2	-0.171573	0.276368	-0.620812	0.535496
B3	0.015293	0.014695	1.040713	0.299382
B4	0.287139	0.879215	0.326586	0.744355
B5	86.297387	50.461476	1.710164	0.088930
B6	-0.471191	1.136829	-0.414479	0.679009
B7	-0.366893	0.467653	-0.784541	0.433737

Results of linear model for dddiast :
Linear model equation: D''_n+1 = b0 + b1(D) + b2(D') + b3(D'') + b4(PP) + b5(INT) + b6(P1) + b7(P2)
Standard error of linear model = 394.915521
R squared = 0.052832 r = 0.229852

	COEF	STD ERROR	T-VALUE	P
B0	772.282627	1573.929959	0.490672	0.624247
B1	-21.809733	20.018773	-1.089464	0.277382
B2	-7.255351	5.055074	-1.435261	0.152920
B3	0.447952	0.268791	1.666544	0.097316
B4	8.944566	16.081778	0.556193	0.578759
B5	834.684702	922.994497	0.904323	0.367013
B6	-7.985238	20.793821	-0.384020	0.701410
B7	-11.690872	8.553874	-1.366734	0.173385

Results of windkessel model for diast :
Overall results for diast:
R-squared = 0.941057, r = 0.970081.

NONLINEAR FORECAST RESULTS (In-sample, n = 172):

STEP	PP	INT	P1	P2	DIAST
0	0.745984	0.655451	0.593604	0.699878	1.000000
1	0.615736	0.648144	0.581592	0.696547	0.494982
2	0.473221	0.647647	0.554076	0.690450	0.194032

3	0.389715	0.634054	0.543593	0.685668	0.106433
4	0.320213	0.620118	0.525056	0.674181	0.069322
5	0.317762	0.576700	0.526236	0.651003	0.109314
6	0.300921	0.557664	0.524788	0.631037	0.102460
7	0.284387	0.514174	0.499174	0.595063	0.091407
8	0.261248	0.496556	0.471499	0.530437	0.118575
9	0.208915	0.480890	0.449645	0.462353	0.004241
10	0.215101	0.458802	0.389456	0.422687	0.017768

NONLINEAR FORECAST RESULTS (Out-of-sample, n = 166):

STEP	PP	INT	P1	P2	DIAST
0	0.554374	0.141896	0.290715	0.218443	1.000000
1	0.393219	0.140385	0.287217	0.218245	0.260125
2	0.217036	0.143939	0.278922	0.212646	0.015338
3	0.156542	0.124188	0.325739	0.199683	-0.007191
4	0.134371	0.132856	0.343690	0.188631	0.046205
5	0.168630	0.122083	0.339306	0.175679	0.099970
6	0.139938	0.110768	0.346594	0.177133	0.030655
7	0.084446	0.148725	0.324428	0.161804	-0.012624
8	0.048829	0.137096	0.298470	0.106017	-0.037690
9	0.078418	0.110886	0.288002	0.097109	-0.006675
10	0.030465	0.097742	0.256101	0.088059	0.002754

LINEAR FORECAST RESULTS (In-sample, n = 172):

STEP	PP	INT	P1	P2	DIAST
0	-0.286469	0.106165	-0.102166	0.249839	1.000000
1	-0.274801	0.097788	-0.098156	0.251248	0.790641
2	-0.265532	0.087780	-0.090421	0.234504	0.713827
3	-0.259385	0.072203	-0.095578	0.217394	0.672091
4	-0.241714	0.069433	-0.081255	0.205297	0.534955
5	-0.220449	0.069029	-0.074987	0.199139	0.423267
6	-0.203168	0.056856	-0.083032	0.183320	0.368499
7	-0.179499	0.056673	-0.082830	0.176327	0.275271
8	-0.162423	0.051671	-0.090177	0.155733	0.236587
9	-0.155416	0.031318	-0.083855	0.128108	0.206704
10	-0.138216	0.026598	-0.077580	0.115356	0.141201

my5

LINEAR FORECAST RESULTS (Out-of-sample, n = 166):

STEP	PP	INT	P1	P2	DIAST
0	-0.604178	0.198796	-0.249624	0.269693	1.000000
1	-0.609597	0.197108	-0.242187	0.276940	0.853761
2	-0.612233	0.195377	-0.230584	0.283861	0.728771
3	-0.621728	0.186406	-0.226212	0.270514	0.566997
4	-0.628815	0.178153	-0.231269	0.271596	0.356426
5	-0.636242	0.163752	-0.236312	0.270683	0.136896
6	-0.636019	0.169930	-0.228851	0.274755	-0.034936
7	-0.641271	0.161275	-0.233503	0.272409	-0.207137
8	-0.652282	0.147054	-0.243265	0.270022	-0.305031
9	-0.651618	0.145946	-0.240034	0.271347	-0.344285
10	-0.650026	0.151711	-0.239158	0.272553	-0.365073

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Error analysis for long forecast into file nl16.00:
Errors in p1: 0
Errors in p2: 0
Errors in p5: 0
Post inflection adjustment in p5: 1

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In-sample data for beats 1 through 200 (n = 200):

BEATNO	TIME	INT	DIAS	DIAS'	DIAS''	SYST	PP	P1	P2	P3	P4	P5	P6	RESP
AVG	1455.479	0.825	58.57	-39.47	-122.87	111.86	53.29	23.76	48.48	501.15	120848.49	47.01	13.74	49.03
STDDEV	47.660	0.041	3.56	20.72	379.43	5.02	3.65	1.19	4.64	39.02	10863.02	3.98	10.54	32.97

Out-of-sample data for beats 201 through 296 (n = 96):

BEATNO	TIME	INT	DIAS	DIAS'	DIAS''	SYST	PP	P1	P2	P3	P4	P5	P6	RESP

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AVG	1579.955	0.849	53.60	-32.03	7.18	103.58	49.98	24.91	43.01	493.87	114491.30	41.88	17.77	52.25
STDDEV	23.860	0.044	2.18	18.56	369.47	5.61	4.02	1.84	5.33	52.01	10514.28	3.01	10.12	28.46

Results of regression for p3 :
Regression equation: P3 = b0 + b1 (P1) + b2 (P1)^2
Standard error of regression = 36.342152
R squared = 0.141390 r = 0.376019

	COEF	STD ERROR	T-VALUE	P
B0	1515.255383	697.469899	2.172503	0.031012
B1	-96.116444	58.104865	-1.654189	0.099682
B2	2.243275	1.208678	1.855974	0.064951

Results of regression for p4 :
Regression equation: P4 = b0 + b1 (PP)
Standard error of regression = 4739.366697
R squared = 0.810612 r = 0.900340

	COEF	STD ERROR	T-VALUE	P
B0	-21981.575509	4917.754724	-4.469840	0.000013
B1	2680.163443	92.065680	29.111428	0.000000

Results of regression for p5 :
Regression equation: P5 = b0 + b1 (P2) + b2 (P2)^2 + b3 (P2)^3
Standard error of regression = 3.498035
R squared = 0.198328 r = 0.445341

	COEF	STD ERROR	T-VALUE	P
B0	18.160421	155.779824	0.116577	0.907314
B1	-0.044246	9.483761	-0.004665	0.996282
B2	0.030894	0.191190	0.161588	0.871797
B3	-0.000361	0.001276	-0.282936	0.777525

Results of regression for p6 :
Regression equation: P6 = b0 + b1 (P1)
Standard error of regression = 10.344453
R squared = 0.041097 r = 0.202723

	COEF	STD ERROR	T-VALUE	P
B0	-28.892928	14.652767	-1.971841	0.050020
B1	1.793893	0.615812	2.913051	0.003990

Results of regression for pp :
Division #1, between 0.00 and 25.00 (n = 49).
Regression equation: PP = b0 + b1 (PHI) + b2 (I_n-1) + b3 (D)
Standard error of regression = 2.721760
R squared = 0.253061 r = 0.503051

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	11.433848	16.543465	0.691140	0.493028
B1	-0.122303	0.053003	-2.307470	0.025684
B2	37.121809	12.271339	3.025082	0.004099
B3	0.175553	0.139522	1.258245	0.214793

Results of regression for pp :
Division #2, between 25.00 and 60.00 (n = 67).
Regression equation: PP = b0 + b1 (PHI) + b2 (I_n-1) + b3 (D)
Standard error of regression = 3.205366
R squared = 0.161321 r = 0.401648

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	29.022679	14.111710	2.056638	0.043868
B1	0.136957	0.041798	3.276622	0.001711
B2	16.053429	11.602984	1.383560	0.171376
B3	0.093913	0.120574	0.778882	0.438965

Results of regression for pp :
Division #3, between 60.00 and 100.00 (n = 80).
Regression equation: PP = b0 + b1 (PHI) + b2 (I_n-1) + b3 (D)
Standard error of regression = 3.248695
R squared = 0.264286 r = 0.514087

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	14.525948	14.374053	1.010567	0.315430
B1	-0.134832	0.033876	-3.980114	0.000156
B2	53.300221	12.299865	4.333399	0.000044
B3	0.114598	0.120257	0.952943	0.343640

Overall regression for pp:
R squared = 0.273309, r = 0.522790, p = 0.000000.

my5

RESULTS OF REGRESSION FOR VARIABLE INT:
DIVISION #1, BETWEEN 0.00 AND 22.00 (n = 43).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.034502
R squared = 0.207011 r = 0.454984

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.844184			
B1	-0.002503	0.000765	-3.271560	0.002174

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.097018	0.973823	0.007464	0.380081	0.541053	0.000000
S'_(n-1)	0.075728	0.996685	0.004548	0.230714	0.633611	0.000000
S'_(n-2)	0.138514	0.959152	0.015214	0.782457	0.381677	0.000000
S'_(n-3)	0.089202	0.850360	0.006310	0.320835	0.574271	0.000000
S'_(n-4)	0.007767	0.987009	0.000048	0.002413	0.961063	0.000000
S'_(n-5)	0.006717	0.999469	0.000036	0.001805	0.966324	0.000000
S'_(n-6)	0.054915	0.942068	0.002391	0.120990	0.729787	0.000000
S'_(n-7)	0.017149	0.960381	0.000233	0.011766	0.914163	0.000000
S'_(n-8)	0.025229	0.995074	0.000505	0.025475	0.873991	0.000000
S'_(n-9)	0.109258	0.995446	0.009466	0.483259	0.490969	0.000000
S'_(n-10)	0.208218	0.946146	0.034380	1.812779	0.185756	1.000000

Partial results of regression (step #2).

Variables in: resp, sum(v_i S'_(i-n)].
Standard error of regression = 0.034165
R squared = 0.241391 r = 0.491315

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.842543			
B1	-0.002260	0.000779	-2.901183	0.006016
B2	-0.001811	0.001345	-1.346395	0.185756

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.133535	0.951190	0.013527	0.708061	0.405218	0.000000
(S'_(n-1))^2	0.133241	0.990719	0.013468	0.704886	0.406264	0.000000
(S'_(n-2))^2	0.025052	0.942072	0.000476	0.024493	0.876445	0.000000
(S'_(n-3))^2	0.060102	0.967288	0.002740	0.141391	0.708940	0.000000
(S'_(n-4))^2	0.291636	0.963860	0.064521	3.625363	0.064302	0.502361
(S'_(n-5))^2	0.164598	0.978720	0.020553	1.086025	0.303771	0.000000
(S'_(n-6))^2	0.288896	0.944343	0.063314	3.551364	0.066965	0.497639
(S'_(n-7))^2	0.245641	0.901778	0.045774	2.504362	0.121608	0.000000
(S'_(n-8))^2	0.154352	0.908318	0.018074	0.951838	0.335265	0.000000
(S'_(n-9))^2	0.074810	0.728823	0.004246	0.219491	0.642036	0.000000
(S'_(n-10))^2	0.043539	0.910672	0.001438	0.074070	0.786936	0.000000

Final results of regression (step #3).

Variables in: resp, sum(v_i S'_(i-n)], sum(w_i, (S'_(i-n)]^2)
Standard error of regression = 0.032217
R squared = 0.342290 r = 0.585056

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.833710			
B1	-0.002394	0.000737	-3.250270	0.002378
B2	-0.002526	0.001302	-1.940855	0.059528
B3	0.000647	0.000264	2.446017	0.019058

RESULTS OF REGRESSION FOR VARIABLE INT:
DIVISION #2, BETWEEN 22.00 AND 70.00 (n = 89).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.034592
R squared = 0.220392 r = 0.469459

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.757044			
B1	0.001328	0.000268	4.959285	0.000003

Variables not in model:

my5

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.052137	0.846983	0.002119	0.234407	0.629506	0.000000
S'_(n-1)	0.071191	0.966404	0.003951	0.438079	0.509821	0.000000
S'_(n-2)	0.042728	0.941468	0.001423	0.157299	0.692638	0.000000
S'_(n-3)	0.007972	0.993605	0.000050	0.005467	0.941233	0.000000
S'_(n-4)	0.146841	0.902838	0.016810	1.895233	0.172186	1.000000
S'_(n-5)	0.106858	0.986367	0.008902	0.993345	0.321722	0.000000
S'_(n-6)	0.059671	0.980003	0.002776	0.307304	0.580778	0.000000
S'_(n-7)	0.009430	0.996987	0.000069	0.007648	0.930514	0.000000
S'_(n-8)	0.122479	0.965941	0.011695	1.309753	0.255615	0.000000
S'_(n-9)	0.097252	0.999171	0.007373	0.821146	0.367377	0.000000
S'_(n-10)	0.039876	0.982626	0.001240	0.136968	0.712224	0.000000

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.034415
R squared = 0.237202 r = 0.487034

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.761829			
B1	0.001208	0.000280	4.307265	0.000044
B2	0.001310	0.000951	1.376674	0.172186

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.140910	0.947424	0.015146	1.721912	0.192980	0.000000
(S'_(n-1))^2	0.174935	0.995580	0.023343	2.683312	0.105101	0.000000
(S'_(n-2))^2	0.179381	0.977348	0.024545	2.826033	0.096418	1.000000
(S'_(n-3))^2	0.094702	0.876305	0.006841	0.769214	0.382933	0.000000
(S'_(n-4))^2	0.076069	0.899225	0.004414	0.494713	0.483754	0.000000
(S'_(n-5))^2	0.136957	0.975647	0.014308	1.624850	0.205891	0.000000
(S'_(n-6))^2	0.141955	0.975987	0.015371	1.748085	0.189665	0.000000
(S'_(n-7))^2	0.001003	0.874178	0.000001	0.000086	0.992640	0.000000
(S'_(n-8))^2	0.043481	0.985387	0.001442	0.161006	0.689239	0.000000
(S'_(n-9))^2	0.092772	0.987735	0.006565	0.737917	0.392745	0.000000
(S'_(n-10))^2	0.026343	0.976454	0.000529	0.059027	0.808626	0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum(w_i, (S'_(i-n))^2)
Standard error of regression = 0.034056
R squared = 0.261747 r = 0.511612

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.761154			
B1	0.001138	0.000281	4.054167	0.000111
B2	0.001349	0.000942	1.432618	0.155635
B3	0.000194	0.000115	1.681081	0.096418

RESULTS OF REGRESSION FOR VARIABLE INT:
DIVISION #3, BETWEEN 70.00 AND 100.00 (n = 58).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.039607
R squared = 0.002886 r = 0.053722

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.826253			
B1	0.000231	0.000575	0.402598	0.688777

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.071247	0.962937	0.005061	0.280610	0.598433	0.000000
S'_(n-1)	0.132822	0.979233	0.017591	0.987711	0.324655	0.000000
S'_(n-2)	0.185091	0.874396	0.034160	1.951076	0.168082	0.000000
S'_(n-3)	0.153913	0.999520	0.023621	1.334527	0.252996	0.000000
S'_(n-4)	0.139645	0.996942	0.019445	1.093876	0.300189	0.000000
S'_(n-5)	0.171563	0.989050	0.029349	1.667953	0.201934	0.000000
S'_(n-6)	0.216385	0.975623	0.046687	2.701726	0.105945	1.000000
S'_(n-7)	0.081322	0.999862	0.006594	0.366148	0.547600	0.000000
S'_(n-8)	0.033490	0.999976	0.001118	0.061757	0.804666	0.000000
S'_(n-9)	0.061043	0.975085	0.003716	0.205712	0.651934	0.000000
S'_(n-10)	0.048998	0.996711	0.002394	0.132364	0.717388	0.000000

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.039019
R squared = 0.049573 r = 0.222650

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.839072			
B1	0.000084	0.000573	0.147026	0.883649
B2	0.002131	0.001297	1.643693	0.105945

my5

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.247198	0.968689	0.058077	3.514524	0.066246	0.503468
(S'_(n-1))^2	0.193815	0.913784	0.035702	2.107642	0.152351	0.000000
(S'_(n-2))^2	0.112966	0.996602	0.012129	0.698015	0.407133	0.000000
(S'_(n-3))^2	0.136380	0.985823	0.017677	1.023405	0.316224	0.000000
(S'_(n-4))^2	0.185957	0.896019	0.032866	1.934212	0.170003	0.000000
(S'_(n-5))^2	0.243792	0.836781	0.056488	3.412278	0.070195	0.496532
(S'_(n-6))^2	0.191776	0.988532	0.034955	2.061854	0.156794	0.000000

(S'_(n-7))^2	0.016575	0.956832	0.000261	0.014839	0.903496	0.000000
(S'_(n-8))^2	0.176350	0.867717	0.029558	1.733260	0.193556	0.000000
(S'_(n-9))^2	0.036493	0.857186	0.001266	0.072009	0.789456	0.000000
(S'_(n-10))^2	0.041670	0.998969	0.001650	0.093927	0.760422	0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum[w_i, [S'_(i-n)]^2]
Standard error of regression = 0.036907
R squared = 0.165123 r = 0.406354

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.826327			
B1	0.000078	0.000542	0.143912	0.886106
B2	0.000755	0.001326	0.569686	0.571253
B3	0.000760	0.000278	2.733827	0.008448

OVERALL REGRESSION FOR INT:
REGRESSION EQUATION = I_n = b0 + b1 (ph1) + b2 SUM(v S') + b3 SUM (w S'^2)
R squared = 0.334485, r = 0.578347, p = 0.000000.

RESULTS OF REGRESSION FOR VARIABLE P1:
DIVISION #1, BETWEEN 0.00 AND 28.00 (n = 53).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.001824
R squared = 0.203007 r = 0.450563

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.041442			
B1	0.000114	0.000032	3.604241	0.000710

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.301263	0.985771	0.072335	4.990959	0.029982	0.263126
S'_(n-1)	0.316658	0.976501	0.079916	5.572349	0.022187	0.276571
S'_(n-2)	0.215466	0.985209	0.037001	2.434287	0.125016	0.000000
S'_(n-3)	0.112722	0.797890	0.010127	0.643485	0.426248	0.000000
S'_(n-4)	0.043573	0.999812	0.001513	0.095112	0.759058	0.000000
S'_(n-5)	0.032758	0.994377	0.000855	0.053711	0.817673	0.000000
S'_(n-6)	0.249816	0.975304	0.049739	3.328109	0.074083	0.218192
S'_(n-7)	0.277202	0.977217	0.061242	4.161845	0.046644	0.242111
S'_(n-8)	0.175202	0.999297	0.024464	1.583392	0.214117	0.000000
S'_(n-9)	0.061144	0.999139	0.002980	0.187628	0.666761	0.000000
S'_(n-10)	0.101425	0.964315	0.008199	0.519697	0.474328	0.000000

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.001841
R squared = 0.204315 r = 0.452013

	COEF	STD ERROR	T-VALUE	P-LEVEL

B0	0.041448			
B1	0.000114	0.000032	3.569542	0.000801
B2	0.000024	0.000084	0.286698	0.775528

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.284884	0.828114	0.064577	4.328055	0.042740	0.351668
(S'_(n-1))^2	0.271209	0.966181	0.058526	3.890312	0.054223	0.334787
(S'_(n-2))^2	0.070013	0.639539	0.003900	0.241370	0.625412	0.000000
(S'_(n-3))^2	0.179399	0.985135	0.025608	1.629466	0.207794	0.000000
(S'_(n-4))^2	0.176039	0.925977	0.024658	1.567052	0.216579	0.000000
(S'_(n-5))^2	0.254002	0.886594	0.051335	3.379363	0.072083	0.313546

my5

(S'_(n-6))^2	0.002073	0.843957	0.000003	0.000210	0.988484	0.000000
(S'_(n-7))^2	0.208099	0.985866	0.034457	2.217995	0.142819	0.000000
(S'_(n-8))^2	0.059859	0.961530	0.002851	0.176202	0.676492	0.000000
(S'_(n-9))^2	0.033365	0.807200	0.000886	0.054609	0.816203	0.000000
(S'_(n-10))^2	0.058808	0.894935	0.002752	0.170049	0.681867	0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_1 S'_(i-n)], sum{w_1, [S'_(i-n)]^2}
Standard error of regression = 0.001722
R squared = 0.317527 r = 0.563495

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.042167			
B1	0.000112	0.000030	3.725348	0.000505
B2	0.000013	0.000079	0.168120	0.867181
B3	-0.000037	0.000013	-2.851018	0.006361

RESULTS OF REGRESSION FOR VARIABLE P1:
DIVISION #2, BETWEEN 28.00 AND 40.00 (n = 20).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.002850
R squared = 0.013011 r = 0.114066

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.039492			
B1	0.000086	0.000176	0.487121	0.632052

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.178564	0.678418	0.031470	0.559900	0.464528	0.000000
S'_(n-1)	0.529227	0.837395	0.276437	6.613780	0.019803	0.381458
S'_(n-2)	0.440411	0.933014	0.191438	4.090806	0.059139	0.317440
S'_(n-3)	0.158568	0.926410	0.024817	0.438470	0.516739	0.000000
S'_(n-4)	0.098096	0.883487	0.009498	0.165177	0.689505	0.000000
S'_(n-5)	0.417743	0.826343	0.172238	3.593804	0.075127	0.301102
S'_(n-6)	0.276057	0.937892	0.075216	1.402397	0.252617	0.000000
S'_(n-7)	0.027580	0.847016	0.000751	0.012941	0.910762	0.000000
S'_(n-8)	0.209820	0.942749	0.043452	0.782885	0.388604	0.000000

S'_(n-9)	0.069368	0.775180	0.004749	0.082198	0.777806	0.000000
S'_(n-10)	0.141376	0.986507	0.019727	0.346710	0.563725	0.000000

Partial results of regression (step #2).

Variables in: resp, sum[v_1 S'_(i-n)].
Standard error of regression = 0.002495
R squared = 0.285734 r = 0.534541

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.045664			
B1	-0.000082	0.000167	-0.487682	0.632005
B2	0.000386	0.000151	2.547744	0.020806

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.049557	0.959654	0.001754	0.039391	0.845176	0.000000
(S'_(n-1))^2	0.275340	0.741954	0.054150	1.312500	0.268790	0.000000
(S'_(n-2))^2	0.203678	0.973811	0.029631	0.692485	0.417568	0.000000
(S'_(n-3))^2	0.355119	0.709711	0.090076	2.308925	0.148146	0.000000
(S'_(n-4))^2	0.048739	0.915958	0.001697	0.038099	0.847701	0.000000
(S'_(n-5))^2	0.470478	0.871896	0.158102	4.548377	0.048789	1.000000
(S'_(n-6))^2	0.128905	0.966362	0.011869	0.270358	0.610211	0.000000
(S'_(n-7))^2	0.189073	0.971378	0.025534	0.593182	0.452414	0.000000
(S'_(n-8))^2	0.098245	0.839407	0.006894	0.155939	0.698138	0.000000
(S'_(n-9))^2	0.239019	0.865361	0.040806	0.969464	0.339470	0.000000
(S'_(n-10))^2	0.104757	0.907122	0.007838	0.177534	0.679107	0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_1 S'_(i-n)], sum{w_1, [S'_(i-n)]^2}
Standard error of regression = 0.002269
R squared = 0.443837 r = 0.666211

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.047160			
B1	-0.000098	0.000152	-0.640498	0.530916
B2	0.000289	0.000145	1.990787	0.063866
B3	-0.000099	0.000046	-2.132692	0.048789

RESULTS OF REGRESSION FOR VARIABLE P1:
DIVISION #3, BETWEEN 40.00 AND 100.00 (n = 117).

Partial results of regression (step #1).

Variables in: resp.

my5

```
Standard error of regression = 0.001774
R squared = 0.018408   r = 0.135676

               COEF        STD ERROR     T-VALUE     P-LEVEL
B0          0.040782
B1          0.000014         0.000009    1.468544    0.144686

Variables not in model:
```


	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.265560	0.997052	0.069224	8.649479	0.003963	0.174097
S'_(n-1)	0.283936	0.793543	0.079135	9.996523	0.002010	0.186144
S'_(n-2)	0.348519	0.987349	0.119230	15.761587	0.000126	0.228485
S'_(n-3)	0.262100	0.926869	0.067432	8.409096	0.004480	0.171830
S'_(n-4)	0.082137	0.996390	0.006622	0.774319	0.380736	0.000000
S'_(n-5)	0.052280	0.917045	0.002683	0.312444	0.577281	0.000000
S'_(n-6)	0.001748	0.997690	0.000003	0.000349	0.985138	0.000000
S'_(n-7)	0.048298	0.978527	0.002290	0.266553	0.606653	0.000000
S'_(n-8)	0.174503	0.993143	0.029891	3.580486	0.060999	0.114402
S'_(n-9)	0.190733	0.972030	0.035709	4.303785	0.040279	0.125042
S'_(n-10)	0.143578	0.991861	0.020235	2.399531	0.124143	0.000000

```
Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.001730
R squared = 0.074787   r = 0.273471

               COEF        STD ERROR     T-VALUE     P-LEVEL
B0          0.040964
B1          0.000011         0.000009    1.189139    0.236856
B2          0.000132         0.000050    2.635653    0.009567

Variables not in model:
```

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.121034	0.982196	0.013554	1.679977	0.197569	0.000000
(S'_(n-1))^2	0.058918	0.999777	0.003212	0.393628	0.531664	0.000000
(S'_(n-2))^2	0.030490	0.941981	0.000860	0.105147	0.746338	0.000000
(S'_(n-3))^2	0.089164	0.992303	0.007356	0.905574	0.343322	0.000000
(S'_(n-4))^2	0.001166	0.911883	0.000001	0.000154	0.990131	0.000000
(S'_(n-5))^2	0.242435	0.937862	0.054379	7.056267	0.009041	1.000000
(S'_(n-6))^2	0.038212	0.982641	0.001351	0.165242	0.685144	0.000000
(S'_(n-7))^2	0.129666	0.918634	0.015556	1.932375	0.167231	0.000000
(S'_(n-8))^2	0.097026	0.913598	0.008710	1.073908	0.302277	0.000000
(S'_(n-9))^2	0.092082	0.989377	0.007845	0.966331	0.327697	0.000000
(S'_(n-10))^2	0.039031	0.990820	0.001410	0.172411	0.678766	0.000000

```
Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum[w_i, (S'_(i-n))^2)
Standard error of regression = 0.001686
R squared = 0.129166   r = 0.359396

               COEF        STD ERROR     T-VALUE     P-LEVEL
B0          0.040598
B1          0.000011         0.000009    1.278093    0.203836
B2          0.000099         0.000050    1.957603    0.052742
B3          0.000019         0.000007    2.656363    0.009041

OVERALL REGRESSION FOR P1:
REGRESSION EQUATION = 1/P1 = b0 + b1 (ph1) + b2 SUM(v S') + b3 SUM (w S'^2)
R squared = 0.325103, r = 0.570178, p = 0.000000.

RESULTS OF REGRESSION FOR VARIABLE P2:
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DIVISION #1, BETWEEN 0.00 AND 20.00 (n = 33).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.001449
R squared = 0.125637   r = 0.354452

               COEF        STD ERROR     T-VALUE     P-LEVEL
B0          0.020338
B1         -0.000090         0.000043   -2.110536    0.042980

Variables not in model:
```

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT

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S'_(n-0)	0.332820	0.974652	0.096852	3.737016	0.062706	0.339805
S'_(n-1)	0.293582	0.999745	0.075362	2.829596	0.102924	0.000000
S'_(n-2)	0.048422	0.913125	0.002050	0.070507	0.792416	0.000000
S'_(n-3)	0.224176	0.862529	0.043941	1.587418	0.217409	0.000000
S'_(n-4)	0.112427	0.993632	0.011052	0.384052	0.540122	0.000000
S'_(n-5)	0.024062	0.999492	0.000506	0.017380	0.895997	0.000000
S'_(n-6)	0.139771	0.924514	0.017081	0.597753	0.445486	0.000000
S'_(n-7)	0.313814	0.967226	0.086106	3.277095	0.080281	0.320400
S'_(n-8)	0.332811	0.999008	0.096847	3.736796	0.062714	0.339796
S'_(n-9)	0.157443	0.999561	0.021674	0.762548	0.389469	0.000000
S'_(n-10)	0.122250	0.974079	0.013067	0.455152	0.505065	0.000000

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.001460
R squared = 0.141062 r = 0.375582

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.020277			
B1	-0.000090	0.000043	-2.097156	0.044512
B2	-0.000061	0.000084	-0.734003	0.468645

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.459876	0.857737	0.181653	7.778041	0.009244	0.389281
(S'_(n-1))^2	0.228337	0.948521	0.044783	1.595170	0.216650	0.000000
(S'_(n-2))^2	0.044662	0.743462	0.001713	0.057962	0.811440	0.000000
(S'_(n-3))^2	0.362437	0.962806	0.112831	4.385548	0.045097	0.306800
(S'_(n-4))^2	0.084653	0.978304	0.006155	0.209318	0.650711	0.000000
(S'_(n-5))^2	0.037790	0.784899	0.001227	0.041474	0.840047	0.000000
(S'_(n-6))^2	0.217222	0.879268	0.040529	1.436135	0.240468	0.000000
(S'_(n-7))^2	0.359035	0.957166	0.110722	4.291464	0.047304	0.303919
(S'_(n-8))^2	0.065642	0.844283	0.003701	0.125500	0.725708	0.000000
(S'_(n-9))^2	0.184849	0.613616	0.029349	1.025962	0.319486	0.000000
(S'_(n-10))^2	0.103353	0.834448	0.009175	0.313116	0.580071	0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum(w_i, [S'_(i-n)]^2)

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Standard error of regression = 0.001471
R squared = 0.157567 r = 0.396948

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.020524			
B1	-0.000091	0.000043	-2.109194	0.043679
B2	-0.000090	0.000093	-0.975502	0.337379
B3	-0.000013	0.000017	-0.753782	0.457057

RESULTS OF REGRESSION FOR VARIABLE P2:
DIVISION #2, BETWEEN 20.00 AND 60.00 (n = 79).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.001594
R squared = 0.291250 r = 0.539676

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.017178			
B1	0.000086	0.000015	5.625126	0.000000

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.232928	0.822526	0.038454	4.359973	0.040143	0.538149
S'_(n-1)	0.016121	0.989314	0.000184	0.019756	0.888594	0.000000
S'_(n-2)	0.078293	0.904251	0.004344	0.468737	0.495652	0.000000
S'_(n-3)	0.079705	0.997048	0.004503	0.485903	0.487887	0.000000
S'_(n-4)	0.068974	0.917249	0.003372	0.363294	0.548477	0.000000
S'_(n-5)	0.199904	0.998023	0.028323	3.163512	0.079300	0.461851
S'_(n-6)	0.161748	0.944130	0.018543	2.041773	0.157129	0.000000
S'_(n-7)	0.019300	0.999977	0.000264	0.028319	0.866807	0.000000
S'_(n-8)	0.022637	0.998184	0.000363	0.038965	0.844044	0.000000
S'_(n-9)	0.088684	0.987766	0.005574	0.602471	0.440046	0.000000
S'_(n-10)	0.001523	0.984607	0.000002	0.000176	0.989439	0.000000

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.001602
R squared = 0.292631 r = 0.540954

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.017259			
B1	0.000084	0.000016	5.265396	0.000001
B2	0.000022	0.000056	0.385178	0.701181

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.025562	0.977692	0.000462	0.049037	0.825350	0.000000
(S'_(n-1))^2	0.103944	0.954578	0.007643	0.819185	0.368317	0.000000
(S'_(n-2))^2	0.156309	0.970701	0.017283	1.878331	0.174612	0.000000
(S'_(n-3))^2	0.073656	0.817755	0.003838	0.409108	0.524372	0.000000
(S'_(n-4))^2	0.054730	0.947820	0.002119	0.225327	0.636390	0.000000

(S'_(n-5))^2	0.025386	0.999643	0.000456	0.048366	0.826529	0.000000
(S'_(n-6))^2	0.119285	0.886789	0.010065	1.082575	0.301465	0.000000
(S'_(n-7))^2	0.194957	0.919312	0.024199	2.656574	0.107316	1.000000
(S'_(n-8))^2	0.074946	0.998196	0.003973	0.423647	0.517112	0.000000
(S'_(n-9))^2	0.162168	0.993773	0.018603	2.025661	0.158808	0.000000
(S'_(n-10))^2	0.048256	0.881144	0.001647	0.175059	0.676850	0.000000

Final results of regression (step #3).

Variables in: resp, sum(v_i S'_(i-n)], sum(w_i, (S'_(i-n)]^2)
Standard error of regression = 0.001585
R squared = 0.316830 r = 0.562876

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.017474			
B1	0.000084	0.000016	5.355368	0.000001
B2	0.000047	0.000058	0.811701	0.419532
B3	-0.000012	0.000007	-1.629900	0.107316

RESULTS OF REGRESSION FOR VARIABLE P2:
DIVISION #3, BETWEEN 60.00 AND 100.00 (n = 78).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.001572
R squared = 0.099048 r = 0.314719

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.025509			
B1	-0.000045	0.000015	-2.890539	0.005011

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.065072	0.959305	0.003815	0.318932	0.573935	0.000000
S'_(n-1)	0.030428	0.953122	0.000834	0.069505	0.792781	0.000000
S'_(n-2)	0.054950	0.936016	0.002720	0.227150	0.635031	0.000000
S'_(n-3)	0.079504	0.965377	0.005695	0.477076	0.491882	0.000000
S'_(n-4)	0.150713	0.977542	0.020465	1.743188	0.190751	0.000000
S'_(n-5)	0.316047	0.973305	0.089992	8.322728	0.005109	0.191496
S'_(n-6)	0.330936	0.990999	0.098671	9.224101	0.003285	0.200517
S'_(n-7)	0.296430	0.978014	0.079167	7.225203	0.008851	0.179610
S'_(n-8)	0.231372	0.999826	0.048231	4.242081	0.042904	0.140191
S'_(n-9)	0.219884	0.955335	0.043560	3.810391	0.054669	0.133230
S'_(n-10)	0.255742	0.999932	0.058926	5.248569	0.024775	0.154956

Partial results of regression (step #2).

Variables in: resp, sum(v_i S'_(i-n)].
Standard error of regression = 0.001468
R squared = 0.224991 r = 0.474333

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.025318			
B1	-0.000041	0.000014	-2.853711	0.005583

B2	-0.000196	0.000056	-3.491123	0.000810		

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.069993	0.945659	0.003797	0.364316	0.547965	0.000000
(S'_(n-1))^2	0.141417	0.973067	0.015499	1.510107	0.223016	0.000000
(S'_(n-2))^2	0.021300	0.991783	0.000352	0.033587	0.855089	0.000000
(S'_(n-3))^2	0.001585	0.998295	0.000002	0.000186	0.989155	0.000000
(S'_(n-4))^2	0.146804	0.913647	0.016702	1.629926	0.205705	0.000000
(S'_(n-5))^2	0.175053	0.897620	0.023749	2.339313	0.130409	0.000000
(S'_(n-6))^2	0.150682	0.996518	0.017597	1.719220	0.193848	0.000000
(S'_(n-7))^2	0.077395	0.867301	0.004642	0.445933	0.506350	0.000000
(S'_(n-8))^2	0.052473	0.742504	0.002134	0.204319	0.652580	0.000000
(S'_(n-9))^2	0.044324	0.955541	0.001523	0.145665	0.703807	0.000000
(S'_(n-10))^2	0.249745	0.960910	0.048339	4.922607	0.029574	1.000000

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Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum(w_i, [S'_(i-n)]^2)
Standard error of regression = 0.001431
R squared = 0.273331 r = 0.522810

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.025476			
B1	-0.000047	0.000014	-3.283270	0.001568
B2	-0.000185	0.000055	-3.365340	0.001215
B3	0.000019	0.000008	2.218695	0.029574

OVERALL REGRESSION FOR P2:
REGRESSION EQUATION = 1/P2 = b0 + b1 (phi) + b2 SUM(v S') + b3 SUM (w S'^2)
R squared = 0.445769, r = 0.667659, p = 0.000000.

Results of detrending for pp :
Division #1, between 0.00 and 25.00 (n = 49).
Detrending equation: PP = b0 + b1 (PHI)
Standard error of regression = 2.933946
R squared = 0.093484 r = 0.305752

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	-0.248143	0.933794	-0.265737	0.791604
B1	-0.125722	0.057106	-2.201561	0.032641

Results of detrending for pp :
Division #2, between 25.00 and 60.00 (n = 67).
Detrending equation: PP = b0 + b1 (PHI)
Standard error of regression = 3.204424
R squared = 0.135206 r = 0.367703

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	-5.616384	1.839744	-3.052807	0.003283
B1	0.132440	0.041545	3.187847	0.002205

Results of detrending for pp :

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Division #3, between 60.00 and 100.00 (n = 80).
Detrending equation: PP = b0 + b1 (PHI)
Standard error of regression = 3.622116
R squared = 0.061364 r = 0.247718

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	7.597199	2.854114	2.661841	0.009434
B1	-0.078922	0.034950	-2.258172	0.026730

Overall detrending for pp:
R squared = 0.124675, r = 0.353094, p = 0.000000.

Results of detrending for int :
Division #1, between 0.00 and 22.00 (n = 43).
Detrending equation: INT = b0 + b1 (PHI)
Standard error of regression = 0.034502
R squared = 0.207011 r = 0.454984

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.019224	0.011458	1.677761	0.101002
B1	-0.002503	0.000765	-3.271560	0.002174

Results of detrending for int :
Division #2, between 22.00 and 70.00 (n = 89).
Detrending equation: INT = b0 + b1 (PHI)
Standard error of regression = 0.033925
R squared = 0.230329 r = 0.479926

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	-0.068400	0.012481	-5.480103	0.000000
B1	0.001330	0.000255	5.218466	0.000001

Results of detrending for int :
Division #3, between 70.00 and 100.00 (n = 58).
Detrending equation: INT = b0 + b1 (PHI)
Standard error of regression = 0.039027
R squared = 0.003055 r = 0.055270

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.000727	0.047346	0.015363	0.987795
B1	0.000232	0.000550	0.421566	0.674900

Overall detrending for int:
R squared = 0.059360, r = 0.243639, p = 0.000508.

Results of detrending for p1 :
Division #1, between 0.00 and 28.00 (n = 53).

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Detrending equation: P1 = b0 + b1 (PHI)
Standard error of regression = 0.975132
R squared = 0.210364 r = 0.458655

	COEF	STD ERROR	T-VALUE	P-LEVEL

B0	0.393437	0.295371	1.332009	0.188557
B1	-0.062257	0.016568	-3.757598	0.000429

Results of detrending for p1 :
Division #2, between 28.00 and 40.00 (n = 20).
Detrending equation: P1 = b0 + b1 (PHI)
Standard error of regression = 1.689798
R squared = 0.021826 r = 0.147735

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	2.193785	3.709286	0.591430	0.561587
B1	-0.066059	0.104237	-0.633739	0.534222

Results of detrending for p1 :
Division #3, between 40.00 and 100.00 (n = 117).
Detrending equation: P1 = b0 + b1 (PHI)
Standard error of regression = 1.045326
R squared = 0.029053 r = 0.170451

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.988215	0.385235	2.565227	0.011553
B1	-0.010033	0.005317	-1.887011	0.061595

Overall detrending for p1:
R squared = 0.082020, r = 0.286391, p = 0.000039.

Results of detrending for p2 :
Division #1, between 0.00 and 20.00 (n = 33).
Detrending equation: P2 = b0 + b1 (PHI)
Standard error of regression = 3.987623
R squared = 0.107270 r = 0.327522

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	1.029587	1.446789	0.711636	0.482012
B1	0.226465	0.117338	1.930016	0.062799

Results of detrending for p2 :
Division #2, between 20.00 and 60.00 (n = 79).
Detrending equation: P2 = b0 + b1 (PHI)
Standard error of regression = 3.963952
R squared = 0.278277 r = 0.527520

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	8.926321	1.509755	5.912431	0.000000
B1	-0.205827	0.036830	-5.588515	0.000000

Results of detrending for p2 :
Division #3, between 60.00 and 100.00 (n = 78).
Detrending equation: P2 = b0 + b1 (PHI)
Standard error of regression = 3.259638
R squared = 0.127000 r = 0.356371

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	-11.033304	2.568494	-4.295632	0.000050
B1	0.105948	0.031452	3.368549	0.001176

Overall detrending for p2:
R squared = 0.197058, r = 0.443912, p = 0.000000.

Results of linear model for pp :
Linear model equation: PP = b0 + b1 (I_n-1) + b2 (D_n)
Standard error of linear model = 3.066534
R squared = 0.206397 r = 0.454309

	COEF	STD ERROR	T-VALUE	P
B0	16.651141	7.183743	2.317892	0.021487
B1	36.792226	5.327406	6.906218	0.000000
B2	0.107869	0.068824	1.567319	0.118653

Overall results of linear modelling of pp
after retrending: R-squared = 0.305090, r = 0.552350.

Results of linear model for int :
Linear model equation: INT = b0 + b1 (S_n) + ... + b(1+m) (S_n-m)
Standard error of linear model = 0.035881
R squared = 0.026801 r = 0.163711

	COEF	STD ERROR	T-VALUE	P
B0	0.770297	0.095414	8.073201	0.000000
B1	-0.000911	0.001198	-0.760268	0.448032
B2	0.001729	0.001713	1.009484	0.314020
B3	-0.001149	0.001729	-0.664458	0.507198
B4	-0.000694	0.001727	-0.401789	0.688289
B5	0.001650	0.001712	0.964288	0.336121
B6	0.000277	0.001719	0.161425	0.871929
B7	-0.000577	0.001688	-0.341692	0.732958
B8	0.000911	0.001699	0.536026	0.592564
B9	0.000150	0.001702	0.087957	0.930003
B10	-0.001318	0.001702	-0.774208	0.439765
B11	0.000420	0.001247	0.336807	0.736632

Overall results of linear modelling of int
after retrending: R-squared = 0.266991, r = 0.516712.

Results of linear model for p1 :
Linear model equation: P1 = b0 + b1 (S_n) + ... + b(1+m) (S_n-m)
Standard error of linear model = 0.994553
R squared = 0.191479 r = 0.437584

	COEF	STD ERROR	T-VALUE	P
B0	25.853218	2.644698	9.775488	0.000000
B1	0.029303	0.033209	0.882371	0.378685
B2	-0.099772	0.047480	-2.101332	0.036923
B3	-0.025975	0.047924	-0.542008	0.588445

B4	-0.029121	0.047864	-0.608416	0.543634
B5	0.001408	0.047442	0.029684	0.976350
B6	0.048055	0.047638	1.008763	0.314365
B7	0.023908	0.046777	0.511113	0.609862
B8	-0.023882	0.047103	-0.507023	0.612724
B9	0.057134	0.047175	1.211094	0.227356
B10	-0.020713	0.047170	-0.439121	0.661070
B11	0.020491	0.034552	0.593064	0.553840

Overall results of linear modelling of p1
after retrending: R-squared = 0.317959, r = 0.563878.

Results of linear model for p2 :
Linear model equation: P2 = b0 + b1 (S_n) + ... + b(1+m) (S_n-m)
Standard error of linear model = 3.321330
R squared = 0.184520 r = 0.429557

	COEF	STD ERROR	T-VALUE	P
B0	42.413102	8.832028	4.802193	0.000003
B1	-0.468978	0.110902	-4.228747	0.000036
B2	0.196627	0.158562	1.240066	0.216472
B3	0.021134	0.160043	0.132052	0.895082
B4	0.186383	0.159842	1.166045	0.245050
B5	-0.073308	0.158432	-0.462710	0.644099
B6	0.030770	0.159088	0.193418	0.846837
B7	0.157970	0.156212	1.011253	0.313174
B8	-0.057606	0.157302	-0.366211	0.714613
B9	0.115981	0.157543	0.736186	0.462521
B10	0.061041	0.157525	0.387501	0.698817
B11	-0.118141	0.115386	-1.023881	0.307186

Overall results of linear modelling of p2
after retrending: R-squared = 0.503430, r = 0.709528.

Results of linear model for diast :
Linear model equation: D_n+1 = b0 + b1(D) + b2(D') + b3(D'') + b4(PP) + b5(INT) + b6(P1) + b7(P2)
Standard error of linear model = 1.423544
R squared = 0.846251 r = 0.919919

	COEF	STD ERROR	T-VALUE	P
B0	9.975329	4.764865	2.093518	0.037623
B1	0.868201	0.032194	26.967603	0.000000
B2	0.011466	0.015800	0.725702	0.468910
B3	-0.001079	0.000848	-1.272399	0.204778
B4	0.093947	0.038789	2.422027	0.016368
B5	-13.955426	3.630206	-3.844252	0.000165
B6	0.161435	0.094132	1.714985	0.087970
B7	0.013585	0.028791	0.471853	0.637570

Results of linear model for ddiast :
Linear model equation: D'_n+1 = b0 + b1(D) + b2(D') + b3(D'') + b4(PP) + b5(INT) + b6(P1) + b7(P2)

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Standard error of linear model = 20.329699
R squared = 0.069343 r = 0.263330

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	COEF	STD ERROR	T-VALUE	P
B0	48.358200	68.047243	0.710656	0.478164
B1	-0.352270	0.459767	-0.766192	0.444508
B2	0.576722	0.225638	2.555960	0.011368
B3	-0.027233	0.012106	-2.249413	0.025628
B4	-0.894764	0.553944	-1.615261	0.107905
B5	74.904477	51.843128	1.444829	0.150144
B6	-2.276113	1.344305	-1.693153	0.092057
B7	-0.157049	0.411170	-0.381957	0.702918

Results of linear model for dddiast :
Linear model equation: D''_n+1 = b0 + b1(D) + b2(D') + b3(D'') + b4(PP) + b5(INT) + b6(P1) + b7(P2)
Standard error of linear model = 377.225693
R squared = 0.045430 r = 0.213144

	COEF	STD ERROR	T-VALUE	P
B0	2104.069183	1262.643772	1.666400	0.097273
B1	-6.065856	8.531163	-0.711023	0.477937
B2	8.366490	4.186807	1.998298	0.047103
B3	-0.381283	0.224641	-1.697299	0.091269
B4	-5.643521	10.278647	-0.549053	0.583610
B5	291.382777	961.969941	0.302902	0.762294
B6	-41.690234	24.944113	-1.671346	0.096291
B7	-11.018509	7.629415	-1.444214	0.150317

Results of windkessel model for diast :
Overall results for diast:
R-squared = 0.983625, r = 0.991779.

NONLINEAR FORECAST RESULTS (In-sample, n = 180):

STEP	PP	INT	P1	P2	DIAST
0	0.590814	0.562297	0.519509	0.656569	1.000000
1	0.502558	0.442323	0.186280	0.589594	0.357667
2	0.201219	0.438241	0.014515	0.541511	0.113901
3	0.157951	0.418604	0.058950	0.525193	0.064843
4	0.294020	0.395652	0.011133	0.487564	0.025729
5	0.301064	0.439688	-0.007762	0.399082	0.021780
6	0.372487	0.381194	-0.219479	0.209449	0.032835
7	0.181035	0.359325	-0.247890	0.047357	0.051200
8	0.161907	0.364028	-0.042185	0.155747	0.045841
9	0.244549	0.308136	-0.060320	0.042325	0.017296
10	0.212317	0.257857	0.003337	-0.152967	-0.048275

NONLINEAR FORECAST RESULTS (Out-of-sample, n = 76):

STEP	PP	INT	P1	P2	DIAST
0	0.411567	0.322667	-0.188026	0.380142	1.000000
1	0.269572	0.504942	-0.237567	0.355271	0.146248
2	0.158166	0.468859	-0.174731	0.292638	0.167110
3	0.166309	0.457842	-0.172156	0.264484	0.048580
4	0.316530	0.449084	-0.063536	0.293374	0.013798
5	0.251880	0.471642	-0.073446	0.256751	-0.047725
6	0.340131	0.409126	0.020835	0.226512	-0.103016
7	0.262042	0.404421	-0.077525	0.137485	0.010831

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8	0.162407	0.372396	-0.083073	0.188253	-0.070941
9	0.198330	0.385596	-0.049140	0.132657	-0.143291
10	0.266861	0.289261	-0.142542	-0.029461	-0.093652

LINEAR FORECAST RESULTS (In-sample, n = 180):

STEP	PP	INT	P1	P2	DIAST
0	0.584372	0.540176	0.504934	0.596341	1.000000
1	0.475105	0.501217	0.442788	0.613370	0.899892
2	0.410975	0.493390	0.358377	0.636521	0.799693
3	0.445543	0.519626	0.262270	0.661213	0.719621
4	0.477278	0.463315	0.221958	0.660466	0.644236
5	0.430536	0.435568	0.254381	0.651505	0.529212
6	0.397742	0.435320	0.260011	0.652580	0.448025
7	0.406326	0.394248	0.238390	0.643783	0.416551
8	0.389430	0.374313	0.225232	0.630091	0.399983
9	0.371946	0.409221	0.207773	0.603961	0.389433
10	0.382382	0.393707	0.200697	0.592332	0.410563

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LINEAR FORECAST RESULTS (Out-of-sample, n = 76):

STEP	PP	INT	P1	P2	DIAST
0	0.417174	0.557725	0.576245	0.712287	1.000000
1	0.509684	0.558209	0.424875	0.620581	0.774788
2	0.424855	0.515704	0.381522	0.641094	0.573764
3	0.470714	0.518416	0.335216	0.489829	0.303616
4	0.472479	0.525735	0.370995	0.553206	0.203177
5	0.403637	0.491623	0.270027	0.513926	0.069584
6	0.383238	0.447461	0.195258	0.397998	0.015107
7	0.368508	0.418577	0.237428	0.430482	0.016541
8	0.330290	0.401936	0.097196	0.337566	0.101819
9	0.318450	0.363606	0.164395	0.288290	0.160348
10	0.330886	0.339787	0.121377	0.335706	0.176987

Error analysis for long forecast into file n116.00:
Errors in p1: 0
Errors in p2: 0
Errors in p5: 0
Post inflection adjustment in p5: 12

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In-sample data for beats 1 through 250 (n = 244):

BEATNO	TIME	INT	DIAS	DIAS'	DIAS''	SYST	PP	P1	P2	P3	P4	P5	P6	RESP
AVG	2655.301	0.950	56.04	-30.51	-123.50	107.50	51.46	28.05	39.92	555.78	115444.13	45.63	16.19	46.94
STDDEV	68.083	0.061	2.17	19.90	349.06	4.67	3.38	6.69	5.38	150.86	10998.44	2.57	17.41	31.56

Out-of-sample data for beats 251 through 372 (n = 122):

BEATNO	TIME	INT	DIAS	DIAS'	DIAS''	SYST	PP	P1	P2	P3	P4	P5	P6	RESP
AVG	2829.049	0.912	57.79	-26.06	-10.98	107.16	49.38	28.76	40.27	554.09	112259.37	47.62	13.44	50.20
STDDEV	31.968	0.060	2.14	18.84	353.72	3.95	2.38	7.05	5.34	165.08	9299.27	2.51	15.49	28.73

Results of regression for p3 :
Regression equation: P3 = b0 + b1 (P1) + b2 (P1)^2
Standard error of regression = 54.599320
R squared = 0.870100 r = 0.932792

	COEF	STD ERROR	T-VALUE	P
B0	308.643240	49.126432	6.282631	0.000000
B1	-0.758969	3.054398	-0.248484	0.803972
B2	0.322935	0.045292	7.130025	0.000000

Results of regression for p4 :
Regression equation: P4 = b0 + b1 (PP)
Standard error of regression = 5919.474626
R squared = 0.711522 r = 0.843517

	COEF	STD ERROR	T-VALUE	P
B0	-25927.760910	5798.921739	-4.471135	0.000012
B1	2747.247480	112.448235	24.431219	0.000000

Results of regression for p5 :
Regression equation: P5 = b0 + b1 (P2) + b2 (P2)^2 + b3 (P2)^3
Standard error of regression = 2.449041
R squared = 0.100845 r = 0.317561

	COEF	STD ERROR	T-VALUE	P
B0	-60.457318	43.517657	-1.389260	0.166041
B1	8.119640	3.142357	2.583933	0.010360
B2	-0.205609	0.074709	-2.752119	0.006373
B3	0.001720	0.000585	2.941752	0.003583

Results of regression for p6 :
Regression equation: P6 = b0 + b1 (P1)
Standard error of regression = 11.176778
R squared = 0.589352 r = 0.767693

	COEF	STD ERROR	T-VALUE	P
B0	-39.818285	3.089203	-12.889500	0.000000
B1	1.996882	0.107150	18.636323	0.000000

my5

Results of regression for pp :
Division #1, between 0.00 and 12.00 (n = 31).
Regression equation: PP = b0 + b1 (PHI) + b2 (I_n-1) + b3 (D)
Standard error of regression = 1.734530
R squared = 0.587925 r = 0.766762

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	-9.357873	15.203874	-0.615493	0.543383
B1	-0.303669	0.098925	-3.069692	0.004840
B2	45.988169	10.292380	4.468176	0.000127
B3	0.297537	0.200369	1.484944	0.149141

Results of regression for pp :
Division #2, between 12.00 and 70.00 (n = 138).
Regression equation: PP = b0 + b1 (PHI) + b2 (I_n-1) + b3 (D)
Standard error of regression = 2.404405
R squared = 0.501305 r = 0.708029

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	-15.749825	9.456876	-1.665436	0.098162
B1	0.014906	0.020160	0.739351	0.460987
B2	31.003448	5.212257	5.948181	0.000000
B3	0.673884	0.116126	5.803051	0.000000

Results of regression for pp :
Division #3, between 70.00 and 100.00 (n = 70).
Regression equation: PP = b0 + b1 (PHI) + b2 (I_n-1) + b3 (D)
Standard error of regression = 1.932759
R squared = 0.604825 r = 0.777705

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	-34.289020	12.260408	-2.796727	0.006756
B1	-0.007797	0.030070	-0.259298	0.796212
B2	69.184929	7.867526	8.793734	0.000000
B3	0.323548	0.126716	2.553328	0.012988

Overall regression for pp:
R squared = 0.496193, r = 0.704409, p = 0.000000.

RESULTS OF REGRESSION FOR VARIABLE INT:
DIVISION #1, BETWEEN 0.00 AND 25.00 (n = 63).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.025882
R squared = 0.602789 r = 0.776395

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.952997			
B1	-0.004234	0.000440	-9.621378	0.000000

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.315818	0.986648	0.039618	6.647470	0.012402	0.269419
S'_(n-1)	0.319317	0.739425	0.040501	6.812402	0.011415	0.272404
S'_(n-2)	0.307713	0.881945	0.037611	6.275448	0.014975	0.262505
S'_(n-3)	0.229369	0.941208	0.020897	3.331886	0.072927	0.195671
S'_(n-4)	0.153423	0.963271	0.009350	1.446363	0.233837	0.000000
S'_(n-5)	0.120810	0.995209	0.005797	0.888666	0.349619	0.000000
S'_(n-6)	0.024502	0.990438	0.000238	0.036043	0.850068	0.000000
S'_(n-7)	0.039974	0.888303	0.000635	0.096029	0.757722	0.000000
S'_(n-8)	0.160311	0.805509	0.010208	1.582653	0.213253	0.000000
S'_(n-9)	0.072360	0.871878	0.002080	0.315815	0.576227	0.000000
S'_(n-10)	0.008238	0.998661	0.000027	0.004072	0.949330	0.000000

Partial results of regression (step #2).

Variables in: resp, sum[v_1 S'_(1-n)].
Standard error of regression = 0.024699
R squared = 0.644211 r = 0.802627

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.952633			

my5

B1	-0.003824	0.000448	-8.543699	0.000000
B2	0.002743	0.001038	2.642964	0.010469

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.070388	0.346984	0.001763	0.293768	0.589857	0.000000
(S'_(n-1))^2	0.047329	0.374354	0.000797	0.132459	0.717197	0.000000
(S'_(n-2))^2	0.111518	0.818419	0.004425	0.742977	0.392199	0.000000
(S'_(n-3))^2	0.190478	0.989769	0.012909	2.221210	0.141453	1.000000
(S'_(n-4))^2	0.120358	0.760827	0.005154	0.867233	0.355517	0.000000
(S'_(n-5))^2	0.144692	0.657181	0.007449	1.261618	0.265895	0.000000
(S'_(n-6))^2	0.138414	0.666118	0.006816	1.152423	0.287414	0.000000
(S'_(n-7))^2	0.091582	0.764938	0.002984	0.499038	0.482704	0.000000
(S'_(n-8))^2	0.014862	0.968702	0.000079	0.013035	0.909489	0.000000
(S'_(n-9))^2	0.075879	0.948901	0.002048	0.341663	0.561100	0.000000
(S'_(n-10))^2	0.046170	0.961392	0.000758	0.126039	0.723840	0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_1 S'_(i-n)], sum(w_1, (S'_(i-n))^2)
Standard error of regression = 0.024451
R squared = 0.657119 r = 0.810629

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.948237			
B1	-0.003833	0.000443	-8.648753	0.000000
B2	0.002591	0.001032	2.509768	0.014845
B3	0.000286	0.000192	1.490372	0.141453

RESULTS OF REGRESSION FOR VARIABLE INT:
DIVISION #2, BETWEEN 25.00 AND 63.00 (n = 87).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.042629
R squared = 0.605559 r = 0.778177

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.736829			
B1	0.004828	0.000423	11.423432	0.000000

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.326603	0.819290	0.042075	10.030178	0.002147	0.191708
S'_(n-1)	0.378763	0.661139	0.056587	14.069120	0.000323	0.222324
S'_(n-2)	0.316156	0.639381	0.039426	9.328652	0.003022	0.185576
S'_(n-3)	0.195388	0.977056	0.015058	3.334100	0.071411	0.114688
S'_(n-4)	0.015005	0.890871	0.000089	0.018916	0.890937	0.000000
S'_(n-5)	0.073821	0.759180	0.002150	0.460266	0.499364	0.000000
S'_(n-6)	0.142789	0.866277	0.008042	1.748296	0.189680	0.000000
S'_(n-7)	0.136414	0.929550	0.007340	1.592767	0.210424	0.000000
S'_(n-8)	0.167724	0.990965	0.011096	2.431438	0.122684	0.000000
S'_(n-9)	0.189154	0.989055	0.014113	3.116992	0.081114	0.111029
S'_(n-10)	0.297587	0.917927	0.034931	8.161629	0.005391	0.174676

Partial results of regression (step #2).

Variables in: resp, sum[v_1 S'_(i-n)].
Standard error of regression = 0.040190
R squared = 0.653518 r = 0.808405

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.769621			
B1	0.004108	0.000451	9.109341	0.000000
B2	0.005042	0.001479	3.409861	0.001001

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.083494	0.881754	0.002415	0.582676	0.447430	0.000000
(S'_(n-1))^2	0.059212	0.989508	0.001215	0.292022	0.590375	0.000000
(S'_(n-2))^2	0.006274	0.735101	0.000014	0.003267	0.954556	0.000000
(S'_(n-3))^2	0.054953	0.646523	0.001046	0.251403	0.617416	0.000000
(S'_(n-4))^2	0.264163	0.658938	0.024178	6.226421	0.014567	1.000000
(S'_(n-5))^2	0.166401	0.773095	0.009594	2.363646	0.127995	0.000000
(S'_(n-6))^2	0.052775	0.996560	0.000965	0.231818	0.631446	0.000000
(S'_(n-7))^2	0.127759	0.841495	0.005655	1.377235	0.243929	0.000000
(S'_(n-8))^2	0.116727	0.578422	0.004721	1.146503	0.287386	0.000000
(S'_(n-9))^2	0.064511	0.510029	0.001442	0.346860	0.557496	0.000000
(S'_(n-10))^2	0.005042	0.591660	0.000009	0.002110	0.963469	0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_1 S'_(i-n)], sum(w_1, (S'_(i-n))^2)
Standard error of regression = 0.038995
R squared = 0.677697 r = 0.823223

my5

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.781912			
B1	0.003583	0.000486	7.376916	0.000000
B2	0.007540	0.001749	4.309962	0.000045
B3	0.000580	0.000232	2.495280	0.014567

RESULTS OF REGRESSION FOR VARIABLE INT:
DIVISION #3, BETWEEN 63.00 AND 100.00 (n = 84).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.027766
R squared = 0.282188 r = 0.531214

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	1.121876			
B1	-0.001642	0.000289	-5.677681	0.000000

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.513132	0.859684	0.189003	28.950491	0.000001	0.150849
S'_(n-1)	0.523031	0.936544	0.196366	30.502958	0.000000	0.153759
S'_(n-2)	0.485336	0.996134	0.169081	24.958664	0.000003	0.142677
S'_(n-3)	0.403038	0.934130	0.116601	15.709473	0.000158	0.118484
S'_(n-4)	0.397911	0.781694	0.113653	15.237585	0.000195	0.116977
S'_(n-5)	0.330203	0.685617	0.078266	9.912581	0.002299	0.097072
S'_(n-6)	0.257562	0.794395	0.047618	5.755188	0.018737	0.075717
S'_(n-7)	0.156260	0.996033	0.017527	2.027296	0.158336	0.000000
S'_(n-8)	0.137557	0.843135	0.013582	1.562227	0.214939	0.000000
S'_(n-9)	0.201752	0.784925	0.029218	3.436906	0.067395	0.059310
S'_(n-10)	0.289663	0.910073	0.060228	7.418768	0.007904	0.085154

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.024663
R squared = 0.440539 r = 0.663731

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	1.119524			
B1	-0.001668	0.000257	-6.489685	0.000000
B2	0.004281	0.000894	4.788148	0.000007

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.142397	0.887430	0.011344	1.655723	0.201893	0.000000
(S'_(n-1))^2	0.235576	0.665750	0.031048	4.700563	0.033125	0.456705
(S'_(n-2))^2	0.280241	0.514519	0.043937	6.818300	0.010771	0.543295
(S'_(n-3))^2	0.118835	0.481972	0.007901	1.145916	0.287625	0.000000
(S'_(n-4))^2	0.014395	0.765932	0.000116	0.016581	0.897864	0.000000
(S'_(n-5))^2	0.069234	0.975289	0.002682	0.385312	0.536538	0.000000
(S'_(n-6))^2	0.120849	0.678005	0.008171	1.185670	0.279474	0.000000

(S'_(n-7))^2	0.116716	0.666868	0.007621	1.104864	0.296366	0.000000
(S'_(n-8))^2	0.120821	0.747592	0.008167	1.185124	0.279584	0.000000
(S'_(n-9))^2	0.022384	0.934629	0.000280	0.040104	0.841786	0.000000
(S'_(n-10))^2	0.088986	0.924725	0.004430	0.638533	0.426608	0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum[w_i, [S'_(i-n)]^2)
Standard error of regression = 0.023877
R squared = 0.482121 r = 0.694349

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	1.131262			
B1	-0.001738	0.000250	-6.941708	0.000000
B2	0.006208	0.001152	5.388666	0.000001
B3	-0.000437	0.000172	-2.534449	0.013213

OVERALL REGRESSION FOR INT:
REGRESSION EQUATION = I_n = b0 + b1 (phi) + b2 SUM(v S') + b3 SUM (w S'^2)
R squared = 0.761937, r = 0.872890, p = 0.000000.

RESULTS OF REGRESSION FOR VARIABLE P1:
DIVISION #1, BETWEEN 0.00 AND 23.00 (n = 58).

Partial results of regression (step #1).

my5

Variables in: resp.
Standard error of regression = 0.005028
R squared = 0.173605 r = 0.416659

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.037853			
B1	0.000330	0.000096	3.429894	0.001140

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.143651	0.961276	0.017053	1.158867	0.286400	0.000000
S'_(n-1)	0.268069	0.761113	0.059386	4.258367	0.043789	0.355192
S'_(n-2)	0.253081	0.926934	0.052931	3.763826	0.057507	0.335333
S'_(n-3)	0.188743	0.948896	0.029439	2.031696	0.159699	0.000000
S'_(n-4)	0.140929	0.971376	0.016413	1.114496	0.295722	0.000000
S'_(n-5)	0.102850	0.996742	0.008742	0.588019	0.446465	0.000000
S'_(n-6)	0.204137	0.986634	0.034437	2.391615	0.127723	0.000000
S'_(n-7)	0.146900	0.867757	0.017833	1.213057	0.275524	0.000000
S'_(n-8)	0.196871	0.820538	0.032029	2.217645	0.142153	0.000000
S'_(n-9)	0.008521	0.879635	0.000060	0.003994	0.949838	0.000000
S'_(n-10)	0.233566	0.999224	0.045082	3.173534	0.080362	0.309475

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.005028
R squared = 0.188662 r = 0.434353

	COEF	STD ERROR	T-VALUE	P-LEVEL

B0	0.037959			
B1	0.000366	0.000102	3.569731	0.000751
B2	0.000257	0.000255	1.010324	0.316764

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.348822	0.357844	0.098721	7.480777	0.008419	0.516280
(S'_(n-1))^2	0.163101	0.348431	0.021583	1.475754	0.229725	0.000000
(S'_(n-2))^2	0.114296	0.872072	0.010599	0.714770	0.401595	0.000000
(S'_(n-3))^2	0.120651	0.974622	0.011810	0.797671	0.375754	0.000000
(S'_(n-4))^2	0.062206	0.688598	0.003140	0.209767	0.648788	0.000000
(S'_(n-5))^2	0.111818	0.576142	0.010144	0.683724	0.411946	0.000000
(S'_(n-6))^2	0.194575	0.580837	0.030717	2.124846	0.150719	0.000000
(S'_(n-7))^2	0.128146	0.743875	0.013323	0.901555	0.346596	0.000000
(S'_(n-8))^2	0.007677	0.984227	0.000048	0.003182	0.955221	0.000000
(S'_(n-9))^2	0.211881	0.858474	0.036424	2.538189	0.116959	0.000000
(S'_(n-10))^2	0.326822	0.773334	0.086661	6.457650	0.013953	0.483720

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum(w_i, (S'_(i-n))^2)
Standard error of regression = 0.004404
R squared = 0.388873 r = 0.623597

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.033844			
B1	0.000498	0.000095	5.236835	0.000003
B2	0.001431	0.000357	4.005585	0.000191
B3	0.000204	0.000049	4.206054	0.000099

RESULTS OF REGRESSION FOR VARIABLE P1:
DIVISION #2, BETWEEN 23.00 AND 75.00 (n = 120).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.006085
R squared = 0.272250 r = 0.521776

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.049949			
B1	-0.000243	0.000037	-6.644064	0.000000

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.025499	0.789911	0.000473	0.076123	0.783108	0.000000
S'_(n-1)	0.070682	0.569417	0.003636	0.587458	0.444948	0.000000
S'_(n-2)	0.163563	0.509935	0.019469	3.216117	0.075500	0.070756
S'_(n-3)	0.260081	0.863560	0.049227	8.488285	0.004283	0.112509
S'_(n-4)	0.168042	0.993645	0.020550	3.399857	0.067732	0.072693
S'_(n-5)	0.160645	0.799880	0.018781	3.099383	0.080935	0.069494
S'_(n-6)	0.296186	0.714364	0.063843	11.250978	0.001073	0.128128
S'_(n-7)	0.342606	0.824672	0.085422	15.559670	0.000137	0.148208
S'_(n-8)	0.322411	0.961959	0.075649	13.572888	0.000349	0.139472

my5

S'_(n-9)	0.305442	0.997337	0.067895	12.038615	0.000730	0.132132
S'_(n-10)	0.292674	0.901911	0.062338	10.960912	0.001238	0.126608

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.005778
R squared = 0.349497 r = 0.591183

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.050597			
B1	-0.000254	0.000035	-7.268796	0.000000
B2	-0.000631	0.000169	-3.727422	0.000300

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.192462	0.862366	0.024096	4.462107	0.036800	0.555343
(S'_(n-1))^2	0.011343	0.977937	0.000084	0.014927	0.902971	0.000000
(S'_(n-2))^2	0.024389	0.948509	0.000387	0.069041	0.793204	0.000000
(S'_(n-3))^2	0.119253	0.807989	0.009251	1.673473	0.198364	0.000000
(S'_(n-4))^2	0.011136	0.668605	0.000081	0.014387	0.904734	0.000000
(S'_(n-5))^2	0.012366	0.696214	0.000099	0.017741	0.894271	0.000000
(S'_(n-6))^2	0.115949	0.912025	0.008745	1.580763	0.211176	0.000000
(S'_(n-7))^2	0.108960	0.972690	0.007723	1.393725	0.240192	0.000000
(S'_(n-8))^2	0.154102	0.642349	0.015448	2.821722	0.095688	0.444657
(S'_(n-9))^2	0.107113	0.574624	0.007463	1.346329	0.248303	0.000000
(S'_(n-10))^2	0.082257	0.634698	0.004401	0.790236	0.375869	0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum(w_i, [S'_(i-n)]^2)
Standard error of regression = 0.005615
R squared = 0.390806 r = 0.625144

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.049329			
B1	-0.000269	0.000034	-7.826622	0.000000
B2	-0.000954	0.000201	-4.750271	0.000006
B3	0.000121	0.000043	2.804610	0.005908

RESULTS OF REGRESSION FOR VARIABLE P1:
DIVISION #3, BETWEEN 75.00 AND 100.00 (n = 56).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.005499
R squared = 0.010253 r = 0.101259

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.024272			
B1	0.000080	0.000107	0.747940	0.457741

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.127876	0.973170	0.016185	0.881083	0.352163	0.000000
S'_(n-1)	0.170660	0.988944	0.028826	1.589923	0.212860	0.000000
S'_(n-2)	0.237305	0.999485	0.055736	3.162732	0.081073	0.072868
S'_(n-3)	0.281003	0.994056	0.078153	4.543803	0.037693	0.086286
S'_(n-4)	0.369150	0.899647	0.134874	8.361890	0.005546	0.113353
S'_(n-5)	0.397160	0.787915	0.156119	9.925640	0.002679	0.121954
S'_(n-6)	0.273182	0.823617	0.073863	4.274304	0.043591	0.083885
S'_(n-7)	0.255213	0.913433	0.064466	3.692587	0.060039	0.078367
S'_(n-8)	0.360601	0.984240	0.128700	7.921850	0.006840	0.110728
S'_(n-9)	0.522899	0.837958	0.270619	19.944775	0.000042	0.160564
S'_(n-10)	0.560130	0.963221	0.310528	24.230778	0.000009	0.171996

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.004896
R squared = 0.230015 r = 0.479599

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.022699			
B1	0.000095	0.000096	0.995114	0.324202
B2	-0.000855	0.000220	-3.889318	0.000282

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT

my5

(S'_(n-0))^2	0.307382	0.977262	0.072751	5.425820	0.023760	0.135324
(S'_(n-1))^2	0.447225	0.888419	0.154004	13.000794	0.000698	0.196889
(S'_(n-2))^2	0.436243	0.651941	0.146534	12.221976	0.000975	0.192055
(S'_(n-3))^2	0.369000	0.493160	0.104842	8.196398	0.006037	0.162451
(S'_(n-4))^2	0.400077	0.583198	0.123245	9.909285	0.002723	0.176132
(S'_(n-5))^2	0.311527	0.909845	0.074726	5.588962	0.021844	0.137149
(S'_(n-6))^2	0.169478	0.809728	0.022116	1.537759	0.220518	0.000000
(S'_(n-7))^2	0.180859	0.403729	0.025186	1.758430	0.190616	0.000000
(S'_(n-8))^2	0.090440	0.271145	0.006298	0.428832	0.515449	0.000000
(S'_(n-9))^2	0.011856	0.546248	0.000108	0.007310	0.932192	0.000000
(S'_(n-10))^2	0.093138	0.966377	0.006679	0.455035	0.502941	0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum(w_i, [S'_(i-n)]^2)
Standard error of regression = 0.004331
R squared = 0.408680 r = 0.639281

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.021866			
B1	0.000069	0.000085	0.817138	0.417578
B2	-0.001377	0.000235	-5.862462	0.000000
B3	0.000183	0.000046	3.963778	0.000226

OVERALL REGRESSION FOR P1:
REGRESSION EQUATION = 1/P1 = b0 + b1 (phi) + b2 SUM(v S') + b3 SUM (w S'^2)
R squared = 0.548839, r = 0.740836, p = 0.000000.

RESULTS OF REGRESSION FOR VARIABLE P2:

DIVISION #1, BETWEEN 0.00 AND 10.00 (n = 26).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.002408
R squared = 0.049605 r = 0.222721

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.021766			
B1	0.000194	0.000173	1.119220	0.274123

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.006525	0.748951	0.000040	0.000979	0.975307	0.000000
S'_(n-1)	0.241610	0.998299	0.055480	1.425873	0.244610	0.000000
S'_(n-2)	0.272057	0.998866	0.070344	1.838418	0.188301	0.000000
S'_(n-3)	0.332799	0.996069	0.105261	2.864643	0.104051	0.000000
S'_(n-4)	0.287110	0.997594	0.078343	2.066260	0.164057	0.000000
S'_(n-5)	0.358464	0.990438	0.122122	3.391174	0.078480	1.000000
S'_(n-6)	0.333917	0.912224	0.105970	2.886345	0.102822	0.000000
S'_(n-7)	0.227093	0.871270	0.049013	1.250634	0.274976	0.000000
S'_(n-8)	0.011314	0.808938	0.000122	0.002944	0.957196	0.000000
S'_(n-9)	0.120321	0.950860	0.013759	0.337868	0.566716	0.000000
S'_(n-10)	0.187664	0.974409	0.033471	0.839579	0.369025	0.000000

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.002296
R squared = 0.171727 r = 0.414400

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.022285			
B1	0.000224	0.000166	1.348100	0.190754
B2	-0.000238	0.000129	-1.841514	0.078480

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.146838	0.419830	0.017859	0.484806	0.493545	0.000000
(S'_(n-1))^2	0.619751	0.553262	0.318132	13.719568	0.001238	0.213649
(S'_(n-2))^2	0.672816	0.934991	0.374944	18.195990	0.000315	0.231942
(S'_(n-3))^2	0.621030	0.902599	0.319447	13.811862	0.001201	0.214090
(S'_(n-4))^2	0.536545	0.464100	0.238443	8.893676	0.006872	0.184965
(S'_(n-5))^2	0.450654	0.403674	0.168213	5.606604	0.027103	0.155355
(S'_(n-6))^2	0.173066	0.588935	0.024808	0.679284	0.418680	0.000000
(S'_(n-7))^2	0.117558	0.980562	0.011447	0.308299	0.584328	0.000000
(S'_(n-8))^2	0.041965	0.723176	0.001459	0.038811	0.845631	0.000000
(S'_(n-9))^2	0.160468	0.645243	0.021328	0.581473	0.453834	0.000000
(S'_(n-10))^2	0.154875	0.696860	0.019867	0.540664	0.469924	0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum(w_i, [S'_(i-n)]^2)

my5

Standard error of regression = 0.001790
R squared = 0.518868 r = 0.720325

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.021298			
B1	0.000160	0.000130	1.224843	0.233588
B2	-0.000354	0.000105	-3.374371	0.002733
B3	0.000105	0.000026	3.984113	0.000627

RESULTS OF REGRESSION FOR VARIABLE P2:
DIVISION #2, BETWEEN 10.00 AND 50.00 (n = 94).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.002284
R squared = 0.465185 r = 0.682045

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.020371			
B1	0.000190	0.000021	8.945504	0.000000

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.111759	0.583503	0.006680	1.150980	0.286181	0.000000
S'_(n-1)	0.092832	0.851544	0.004609	0.791029	0.376134	0.000000
S'_(n-2)	0.214514	0.950308	0.024610	4.389465	0.038940	0.083554
S'_(n-3)	0.371237	0.716427	0.073707	14.546058	0.000249	0.144599
S'_(n-4)	0.396856	0.717586	0.084230	17.011150	0.000082	0.154577
S'_(n-5)	0.411173	0.868314	0.090418	18.514951	0.000042	0.160154
S'_(n-6)	0.404146	0.937230	0.087354	17.765041	0.000059	0.157417
S'_(n-7)	0.358524	0.997864	0.068745	13.422440	0.000417	0.139647
S'_(n-8)	0.237446	0.951495	0.030153	5.437176	0.021920	0.092486
S'_(n-9)	0.173465	0.821628	0.016093	2.823141	0.096344	0.067565
S'_(n-10)	0.132349	0.727746	0.009368	1.622406	0.206000	0.000000

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.002114
R squared = 0.546665 r = 0.739368

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.021121			
B1	0.000167	0.000020	8.163383	0.000000
B2	-0.000277	0.000069	-4.044249	0.000110

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.192429	0.743231	0.016787	3.460753	0.066108	0.116059
(S'_(n-1))^2	0.138554	0.596656	0.008703	1.761565	0.187787	0.000000
(S'_(n-2))^2	0.054997	0.560808	0.001371	0.273043	0.602582	0.000000
(S'_(n-3))^2	0.294275	0.576474	0.039258	8.532732	0.004409	0.177485
(S'_(n-4))^2	0.262784	0.835709	0.031305	6.675997	0.011383	0.158492

(S'_(n-5))^2	0.248831	0.964576	0.028069	5.940329	0.016765	0.150077
(S'_(n-6))^2	0.252653	0.690638	0.028938	6.136766	0.015108	0.152382
(S'_(n-7))^2	0.231652	0.517468	0.024327	5.103513	0.026292	0.139716
(S'_(n-8))^2	0.175402	0.642914	0.013947	2.856816	0.094448	0.105790
(S'_(n-9))^2	0.049182	0.897056	0.001097	0.218228	0.641522	0.000000
(S'_(n-10))^2	0.022890	0.979807	0.000238	0.047181	0.828534	0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum[w_i, (S'_(i-n))^2]
Standard error of regression = 0.002023
R squared = 0.589526 r = 0.767806

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.020273			
B1	0.000159	0.000020	8.103303	0.000000
B2	-0.000301	0.000066	-4.563269	0.000016
B3	0.000059	0.000019	3.065562	0.002868

RESULTS OF REGRESSION FOR VARIABLE P2:
DIVISION #3, BETWEEN 50.00 AND 100.00 (n = 114).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.002999
R squared = 0.255732 r = 0.505700

	COEF	STD ERROR	T-VALUE	P-LEVEL

my5

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B0          0.034734
B1         -0.000121        0.000019  -6.203502   0.000000

Variables not in model:

           PARTIAL CORR     TOLERANCE         R-SQ       F-VALUE       P-LEVEL    NEW WEIGHT
S'_(n-0 )      0.041525      0.866571     0.001293      0.191735      0.662328      0.000000
S'_(n-1 )      0.101030      0.976400     0.007597      1.144675      0.286988      0.000000
S'_(n-2 )      0.174065      0.974824     0.022550      3.468247      0.065202      0.051659
S'_(n-3 )      0.269881      0.788082     0.054209      8.719874      0.003842      0.080094
S'_(n-4 )      0.336570      0.651827     0.084310     14.180341      0.000267      0.099886
S'_(n-5 )      0.384477      0.730284     0.110019     19.254510      0.000026      0.114104
S'_(n-6 )      0.407039      0.997611     0.123311     22.042606      0.000008      0.120800
S'_(n-7 )      0.418879      0.880007     0.130589     23.620395      0.000004      0.124314
S'_(n-8 )      0.469882      0.717888     0.164326     31.451756      0.000000      0.139450
S'_(n-9 )      0.490223      0.743694     0.178861     35.113846      0.000000      0.145487
S'_(n-10)      0.418516      0.910714     0.130363     23.570861      0.000004      0.124206

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.002651
R squared = 0.423793  r = 0.650994

               COEF        STD ERROR     T-VALUE     P-LEVEL
B0          0.035277
B1         -0.000130        0.000017  -7.533388   0.000000
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B2         -0.000461        0.000081  -5.689904   0.000000

Variables not in model:

                PARTIAL CORR     TOLERANCE         R-SQ       F-VALUE       P-LEVEL    NEW WEIGHT
(S'_(n-0 ))^2      0.250984      0.842824     0.036297      7.395075      0.007602      0.212374
(S'_(n-1 ))^2      0.271889      0.746084     0.042595      8.780687      0.003732      0.230063
(S'_(n-2 ))^2      0.288160      0.697742     0.047846      9.961150      0.002063      0.243832
(S'_(n-3 ))^2      0.214381      0.812735     0.026482      5.299039      0.023220      0.181402
(S'_(n-4 ))^2      0.156386      0.998878     0.014092      2.757682      0.099636      0.132329
(S'_(n-5 ))^2      0.141759      0.820344     0.011579      2.255862      0.135975      0.000000
(S'_(n-6 ))^2      0.130212      0.611802     0.009770      1.897233      0.171185      0.000000
(S'_(n-7 ))^2      0.045094      0.605096     0.001172      0.224142      0.636840      0.000000
(S'_(n-8 ))^2      0.044411      0.838869     0.001136      0.217390      0.641958      0.000000
(S'_(n-9 ))^2      0.066184      0.998575     0.002524      0.483960      0.488101      0.000000
(S'_(n-10))^2      0.077087      0.804640     0.003424      0.657568      0.419171      0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum(w_i, [S'_(i-n)]^2)
Standard error of regression = 0.002522
R squared = 0.483107  r = 0.695059

               COEF        STD ERROR     T-VALUE     P-LEVEL
B0          0.034290
B1         -0.000132        0.000016  -8.039784   0.000000
B2         -0.000618        0.000089  -6.955169   0.000000
B3          0.000063        0.000018   3.552843   0.000563

OVERALL REGRESSION FOR P2:
REGRESSION EQUATION = 1/P2 = b0 + b1 (ph1) + b2 SUM(v S') + b3 SUM (w S'^2)
R squared = 0.565573, r = 0.752046, p = 0.000000.

Results of detrending for pp :
Division #1, between 0.00 and 12.00 (n = 31).
Detrending equation: PP = b0 + b1 (PHI)
Standard error of regression = 2.248193
R squared = 0.256443  r = 0.506402

               COEF        STD ERROR     T-VALUE     P-LEVEL
B0          0.126533        0.851760   0.148555   0.882933
B1         -0.379000        0.119840  -3.162548   0.003651


Results of detrending for pp :
Division #2, between 12.00 and 70.00 (n = 138).
Detrending equation: PP = b0 + b1 (PHI)
Standard error of regression = 2.752517
R squared = 0.336694  r = 0.580253

               COEF        STD ERROR     T-VALUE     P-LEVEL
B0         -4.877904        0.618779  -7.883112   0.000000
B1          0.118830        0.014302   8.308638   0.000000


Results of detrending for pp :
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my5

Division #3, between 70.00 and 100.00 (n = 70).
Detrending equation: PP = b0 + b1 (PHI)
Standard error of regression = 2.838393
R squared = 0.121900 r = 0.349141

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	11.224637	3.410389	3.291307	0.001583
B1	-0.122682	0.039930	-3.072441	0.003053

Overall detrending for pp:
R squared = 0.299709, r = 0.547457, p = 0.000000.

Results of detrending for int :
Division #1, between 0.00 and 25.00 (n = 63).
Detrending equation: INT = b0 + b1 (PHI)
Standard error of regression = 0.025479
R squared = 0.605559 r = 0.778176

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.002676	0.006411	0.417446	0.677771
B1	-0.004235	0.000431	-9.834609	0.000000

Results of detrending for int :
Division #2, between 25.00 and 63.00 (n = 87).
Detrending equation: INT = b0 + b1 (PHI)
Standard error of regression = 0.042566
R squared = 0.605524 r = 0.778154

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	-0.211556	0.018696	-11.315572	0.000000
B1	0.004805	0.000413	11.622432	0.000000

Results of detrending for int :
Division #3, between 63.00 and 100.00 (n = 84).
Detrending equation: INT = b0 + b1 (PHI)
Standard error of regression = 0.027766
R squared = 0.282188 r = 0.531214

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.171663	0.023873	7.190672	0.000000
B1	-0.001642	0.000289	-5.677681	0.000000

Overall detrending for int:
R squared = 0.646946, r = 0.804329, p = 0.000000.

Results of detrending for p1 :
Division #1, between 0.00 and 23.00 (n = 58).
Detrending equation: P1 = b0 + b1 (PHI)
Standard error of regression = 3.759361
R squared = 0.174071 r = 0.417219

	COEF	STD ERROR	T-VALUE	P-LEVEL

B0	-0.745159	0.984651	-0.756775	0.452248
B1	-0.249962	0.071494	-3.496281	0.000912

Results of detrending for p1 :
Division #2, between 23.00 and 75.00 (n = 120).
Detrending equation: P1 = b0 + b1 (PHI)
Standard error of regression = 5.978847
R squared = 0.223108 r = 0.472343

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	-10.838157	1.819913	-5.955315	0.000000
B1	0.209114	0.035474	5.894815	0.000000

Results of detrending for p1 :
Division #3, between 75.00 and 100.00 (n = 56).
Detrending equation: P1 = b0 + b1 (PHI)
Standard error of regression = 6.020538
R squared = 0.014149 r = 0.118949

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	13.979047	10.362445	1.349011	0.182963
B1	-0.103457	0.117519	-0.880341	0.382576

Overall detrending for p1:
R squared = 0.335842, r = 0.579519, p = 0.000000.

Results of detrending for p2 :
Division #1, between 0.00 and 10.00 (n = 26).

```
Detrending equation: P2 = b0 + b1 (PHI)
Standard error of regression = 4.306943
R squared = 0.057711   r = 0.240230

               COEF        STD ERROR     T-VALUE     P-LEVEL
B0         6.349926         1.841737    3.447792    0.002012
B1        -0.376355         0.304153   -1.237387    0.227440


Results of detrending for p2 :
Division #2, between 10.00 and 50.00 (n = 94).
Detrending equation: P2 = b0 + b1 (PHI)
Standard error of regression = 3.608276
R squared = 0.415946   r = 0.644939

               COEF        STD ERROR     T-VALUE     P-LEVEL
B0         7.089969         1.055928    6.714442    0.000000
B1        -0.272587         0.032967   -8.268524    0.000000


Results of detrending for p2 :
Division #3, between 50.00 and 100.00 (n = 114).
Detrending equation: P2 = b0 + b1 (PHI)
Standard error of regression = 5.085825
R squared = 0.216838   r = 0.465659
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               COEF        STD ERROR     T-VALUE     P-LEVEL
B0       -14.013214         2.531651   -5.535209    0.000000
B1         0.184034         0.033048    5.568668    0.000000


Overall detrending for p2:
R squared = 0.197044, r = 0.443896, p = 0.000000.

Results of linear model for pp :
Linear model equation: PP = b0 + b1 (I_n-1) + b2 (D_n)
Standard error of linear model = 2.509345
R squared = 0.309048   r = 0.555920

               COEF        STD ERROR     T-VALUE           P
B0       -10.433133         6.684815   -1.560721    0.119907
B1        45.136754         4.447800   10.148107    0.000000
B2         0.337965         0.076547    4.415108    0.000015

Overall results of linear modelling of pp
   after retrending: R-squared = 0.499016, r = 0.706411.


Results of linear model for int :
Linear model equation: INT = b0 + b1 (S_n) + ... + b(1+m) (S_n-m)
Standard error of linear model = 0.030501
R squared = 0.186935   r = 0.432360

               COEF        STD ERROR     T-VALUE           P
B0         0.620263         0.072755    8.525402    0.000000
B1         0.000946         0.001275    0.741961    0.458852
B2         0.003384         0.001849    1.829897    0.068532
B3        -0.000237         0.001880   -0.126031    0.899815
B4         0.000747         0.001878    0.397730    0.691190
B5        -0.003417         0.001864   -1.833177    0.068041
B6         0.001970         0.001748    1.126889    0.260939
B7        -0.000271         0.001643   -0.164877    0.869183
B8         0.001029         0.001646    0.625425    0.532299
B9        -0.000842         0.001645   -0.512112    0.609054
B10       -0.001454         0.001630   -0.892068    0.373269
B11        0.001217         0.001123    1.083545    0.279677

Overall results of linear modelling of int
   after retrending: R-squared = 0.762378, r = 0.873142.


Results of linear model for p1 :
Linear model equation: P1 = b0 + b1 (S_n) + ... + b(1+m) (S_n-m)
Standard error of linear model = 5.347575
R squared = 0.084575   r = 0.290818

               COEF        STD ERROR     T-VALUE           P
B0       -10.560228        12.755732   -0.827881    0.408578
B1        -0.153137         0.223619   -0.684810    0.494139
B2        -0.007217         0.324213   -0.022261    0.982258
B3        -0.213726         0.329573   -0.648493    0.517300
```

B4	0.295385	0.329279	0.897064	0.370603
B5	-0.091416	0.326830	-0.279705	0.779950
B6	0.281630	0.306537	0.918748	0.359169
B7	-0.185566	0.288134	-0.644027	0.520186
B8	0.120314	0.288563	0.416941	0.677102
B9	0.080075	0.288409	0.277645	0.781529
B10	-0.134947	0.285826	-0.472129	0.637273
B11	0.368294	0.196848	1.870959	0.062594

Overall results of linear modelling of p1
after retrending: R-squared = 0.388854, r = 0.623581.

Results of linear model for p2 :
Linear model equation: P2 = b0 + b1 (S_n) + ... + b(1+m) (S_n-m)
Standard error of linear model = 4.064239
R squared = 0.184243 r = 0.429235

	COEF	STD ERROR	T-VALUE	P
B0	-6.063086	9.694552	-0.625412	0.532308
B1	-0.351362	0.169954	-2.067391	0.039792
B2	0.045017	0.246407	0.182696	0.855194
B3	-0.097773	0.250481	-0.390343	0.696637
B4	0.377838	0.250257	1.509800	0.132438
B5	-0.152301	0.248396	-0.613137	0.540379
B6	0.206517	0.232973	0.886440	0.376287
B7	0.119031	0.218986	0.543553	0.587264
B8	0.022897	0.219313	0.104402	0.916940
B9	0.007315	0.219195	0.033374	0.973405
B10	0.064652	0.217232	0.297619	0.766257
B11	0.186260	0.149607	1.244991	0.214375

Overall results of linear modelling of p2
after retrending: R-squared = 0.462884, r = 0.680356.

Results of linear model for diast :
Linear model equation: D_n+1 = b0 + b1(D) + b2(D') + b3(D'') + b4(PP) + b5(INT) + b6(P1) + b7(P2)
Standard error of linear model = 1.135360
R squared = 0.733682 r = 0.856552

	COEF	STD ERROR	T-VALUE	P
B0	22.404384	2.831305	7.913094	0.000000
B1	0.732540	0.036137	20.271195	0.000000
B2	-0.054579	0.011048	-4.940220	0.000001
B3	0.002108	0.000629	3.353705	0.000929
B4	0.153388	0.033912	4.523087	0.000010
B5	-17.252645	2.604275	-6.624740	0.000000
B6	0.024354	0.018972	1.283653	0.200528
B7	-0.026158	0.021618	-1.209994	0.227497

Results of linear model for ddiast :
Linear model equation: D''_n+1 = b0 + b1(D) + b2(D') + b3(D'') + b4(PP) + b5(INT) + b6(P1) + b7(P2)
Standard error of linear model = 19.770433
R squared = 0.044231 r = 0.210312

	COEF	STD ERROR	T-VALUE	P
B0	-79.388800	49.302537	-1.610238	0.108688
B1	0.031317	0.629266	0.049767	0.960350
B2	0.266952	0.192381	1.387624	0.166566
B3	-0.014802	0.010945	-1.352357	0.177561
B4	0.150557	0.590525	0.254955	0.798981
B5	78.848719	45.349182	1.738702	0.083397
B6	0.007014	0.330374	0.021229	0.983081
B7	-0.741372	0.376444	-1.969406	0.050081

Results of linear model for dddiast :
Linear model equation: D''_n+1 = b0 + b1(D) + b2(D') + b3(D'') + b4(PP) + b5(INT) + b6(P1) + b7(P2)
Standard error of linear model = 344.976821
R squared = 0.055189 r = 0.234924

	COEF	STD ERROR	T-VALUE	P
B0	-880.600972	860.286292	-1.023614	0.307070
B1	1.238816	10.980150	0.112823	0.910267
B2	1.269084	3.356880	0.378055	0.705731
B3	-0.076874	0.190987	-0.402512	0.687673
B4	11.468773	10.304154	1.113024	0.266835
B5	842.447283	791.303695	1.064632	0.288135
B6	-0.920294	5.764744	-0.159642	0.873300
B7	-16.320719	6.568623	-2.484649	0.013665

Results of windkessel model for diast :
Overall results for diast:
R-squared = 0.952567, r = 0.975995.

NONLINEAR FORECAST RESULTS (In-sample, n = 224):

STEP	PP	INT	P1	P2	DIAST
0	0.760977	0.866632	0.745356	0.752490	1.000000

my5

1	0.530373	0.851579	0.692148	0.758539	0.475559
2	0.408346	0.812385	0.682222	0.721842	0.419730
3	0.342977	0.783172	0.664721	0.687822	0.404534
4	0.324713	0.782818	0.616439	0.659073	0.384015
5	0.323422	0.776170	0.597802	0.632872	0.390532
6	0.351255	0.761104	0.572173	0.609415	0.381306
7	0.344166	0.751298	0.546249	0.598599	0.360683
8	0.332972	0.733707	0.472967	0.559597	0.343825
9	0.319153	0.701508	0.396812	0.499398	0.310340
10	0.305538	0.650709	0.292029	0.408652	0.291694

NONLINEAR FORECAST RESULTS (Out-of-sample, n = 102):

STEP	PP	INT	P1	P2	DIAST
0	0.568145	0.835244	0.430821	0.684431	1.000000
1	0.718989	0.858219	0.442000	0.690170	0.603246
2	0.693444	0.869701	0.454864	0.714788	0.558512
3	0.675529	0.873533	0.415344	0.703337	0.534036
4	0.667811	0.868488	0.384657	0.671620	0.556160
5	0.668021	0.801230	0.372314	0.663401	0.574336
6	0.670699	0.770097	0.395388	0.693214	0.563717
7	0.662675	0.734111	0.426949	0.720072	0.592319

8	0.660259	0.712995	0.430829	0.718714	0.574354
9	0.676487	0.697590	0.407265	0.729007	0.555411
10	0.679087	0.664453	0.348756	0.716864	0.578139

LINEAR FORECAST RESULTS (In-sample, n = 224):

STEP	PP	INT	P1	P2	DIAST
0	0.469738	0.167451	0.025058	-0.131698	1.000000
1	0.456493	0.162653	0.023117	-0.133362	0.834215
2	0.443102	0.146282	-0.009373	-0.146607	0.574196
3	0.421997	0.126289	-0.033402	-0.153964	0.321760
4	0.403769	0.110698	-0.083160	-0.178835	0.180834
5	0.393184	0.103107	-0.116499	-0.200690	0.107894
6	0.388724	0.101954	-0.122067	-0.224396	0.013988
7	0.387200	0.110181	-0.124320	-0.237768	-0.022705
8	0.390619	0.127168	-0.113250	-0.246807	0.013189
9	0.394258	0.144456	-0.098557	-0.259014	0.173835
10	0.390117	0.153995	-0.097621	-0.269103	0.317844

LINEAR FORECAST RESULTS (Out-of-sample, n = 102):

STEP	PP	INT	P1	P2	DIAST
0	-0.264603	0.338412	0.577409	0.202202	1.000000
1	-0.249552	0.345016	0.573794	0.191426	0.823271
2	-0.243866	0.343633	0.543608	0.163982	0.523253
3	-0.247337	0.319128	0.543730	0.189145	0.283483
4	-0.265679	0.280997	0.525824	0.213001	0.176016
5	-0.275210	0.252656	0.495519	0.225214	0.078194
6	-0.257524	0.233229	0.453119	0.211553	0.040434
7	-0.234568	0.218445	0.398796	0.156942	-0.045624
8	-0.211256	0.215346	0.348742	0.118508	0.030453
9	-0.176496	0.215813	0.346478	0.100123	0.152361
10	-0.119196	0.234308	0.382913	0.082902	0.414036

Error analysis for long forecast into file nl16.00:
Errors in p1: 0
Errors in p2: 0
Errors in p5: 0
Post inflection adjustment in p5: 3

In-sample data for beats 10 through 170 (n = 160):

my5

BEATNO	TIME	INT	DIAS	DIAS'	DIAS''	SYST	PP	P1	P2	P3	P4	P5	P6	RESP
AVG	3740.387	0.841	66.12	-37.51	-68.05	123.95	57.83	22.87	46.78	499.54	128907.68	51.79	9.75	47.49
STDDEV	38.884	0.087	4.96	17.34	274.81	10.56	6.54	2.63	6.49	94.99	18263.95	3.74	9.44	30.91

Out-of-sample data for beats 171 through 282 (n = 112):

BEATNO	TIME	INT	DIAS	DIAS'	DIAS''	SYST	PP	P1	P2	P3	P4	P5	P6	RESP
AVG	3853.071	0.841	59.57	-38.19	-101.67	111.80	52.23	24.24	44.40	514.20	118042.72	46.50	11.72	48.47
STDDEV	27.341	0.079	3.22	19.03	343.50	8.26	5.62	1.60	6.05	96.84	15820.78	4.00	11.84	28.62

Results of regression for p3 :
Regression equation: P3 = b0 + b1 (P1) + b2 (P1)^2
Standard error of regression = 54.913631
R squared = 0.670005 r = 0.818539

	COEF	STD ERROR	T-VALUE	P
B0	-631.970889	289.419059	-2.183584	0.030477
B1	69.901253	25.364304	2.755891	0.006546
B2	-0.881340	0.550911	-1.599788	0.111656

Results of regression for p4 :
Regression equation: P4 = b0 + b1 (PP)
Standard error of regression = 4210.732147
R squared = 0.947182 r = 0.973233

	COEF	STD ERROR	T-VALUE	P
B0	-28218.068752	2970.566525	-9.499221	0.000000
B1	2716.881466	51.040914	53.229483	0.000000

Results of regression for p5 :
Regression equation: P5 = b0 + b1 (P2) + b2 (P2)^2 + b3 (P2)^3
Standard error of regression = 3.444534
R squared = 0.166597 r = 0.408162

	COEF	STD ERROR	T-VALUE	P
B0	-109.909326	85.626138	-1.283596	0.201187
B1	10.885050	5.361786	2.030117	0.044044
B2	-0.235648	0.110665	-2.129384	0.034792
B3	0.001642	0.000752	2.182463	0.030571

Results of regression for p6 :
Regression equation: P6 = b0 + b1 (P1)
Standard error of regression = 9.005568
R squared = 0.095198 r = 0.308541

	COEF	STD ERROR	T-VALUE	P
B0	-15.537151	6.243043	-2.488714	0.013857
B1	1.105877	0.271233	4.077225	0.000072

Results of regression for pp :
Division #1, between 0.00 and 8.00 (n = 12).
Regression equation: PP = b0 + b1 (PHI) + b2 (I_n-1) + b3 (D)
Standard error of regression = 2.540938
R squared = 0.340734 r = 0.583724

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	4.968634	32.169956	0.154450	0.881081
B1	0.598004	0.330935	1.807013	0.108385
B2	24.844844	17.139538	1.449563	0.185223
B3	0.333648	0.334819	0.996502	0.348189

Results of regression for pp :
Division #2, between 8.00 and 58.00 (n = 87).
Regression equation: PP = b0 + b1 (PHI) + b2 (I_n-1) + b3 (D)
Standard error of regression = 2.907478
R squared = 0.794859 r = 0.891548

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	8.906475	8.932913	0.997040	0.321643
B1	0.234557	0.034106	6.877366	0.000000
B2	9.855054	5.788619	1.702488	0.092407
B3	0.532783	0.096535	5.519089	0.000000

Results of regression for pp :
Division #3, between 58.00 and 100.00 (n = 60).
Regression equation: PP = b0 + b1 (PHI) + b2 (I_n-1) + b3 (D)
Standard error of regression = 3.351481
R squared = 0.732679 r = 0.855967

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	46.492119	16.238000	2.863168	0.005891

B1	-0.323675	0.042944	-7.537151	0.000000
B2	-2.195815	8.291090	-0.264840	0.792105
B3	0.573990	0.131604	4.361486	0.000056

Overall regression for pp:
R squared = 0.796844, r = 0.892661, p = 0.000000.

RESULTS OF REGRESSION FOR VARIABLE INT:
DIVISION #1, BETWEEN 0.00 AND 30.00 (n = 49).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.043545
R squared = 0.322297 r = 0.567712

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.823235			
B1	-0.003471	0.000734	-4.727783	0.000021

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.277402	0.657853	0.052150	3.834884	0.056277	0.062403
S'_(n-1)	0.173003	0.998856	0.020284	1.419268	0.239635	0.000000
S'_(n-2)	0.285153	0.670721	0.055105	4.071409	0.049470	0.064146
S'_(n-3)	0.327462	0.547831	0.072671	5.525114	0.023089	0.073664
S'_(n-4)	0.293972	0.566995	0.058567	4.351347	0.042553	0.066130
S'_(n-5)	0.358789	0.607264	0.087240	6.796449	0.012272	0.080711
S'_(n-6)	0.497551	0.876444	0.167770	15.134236	0.000321	0.111926
S'_(n-7)	0.573893	0.977890	0.223204	22.590521	0.000020	0.129100
S'_(n-8)	0.612155	0.804759	0.253958	27.568627	0.000004	0.137707
S'_(n-9)	0.631855	0.760655	0.270566	30.569725	0.000001	0.142138
S'_(n-10)	0.587118	0.722269	0.233610	24.197723	0.000012	0.132075

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.035319
R squared = 0.563644 r = 0.750762

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.832667			
B1	-0.003314	0.000596	-5.558809	0.000001
B2	-0.004497	0.000892	-5.044047	0.000008

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.061609	0.350351	0.001656	0.171459	0.680786	0.000000
(S'_(n-1))^2	0.198645	0.590982	0.017219	1.848645	0.180715	0.000000
(S'_(n-2))^2	0.125179	0.353919	0.006838	0.716371	0.401816	0.000000
(S'_(n-3))^2	0.104621	0.657810	0.004776	0.497997	0.484019	0.000000
(S'_(n-4))^2	0.333611	0.911342	0.048565	5.635531	0.021928	0.309830
(S'_(n-5))^2	0.458941	0.521504	0.091908	12.007271	0.001176	0.426226
(S'_(n-6))^2	0.284203	0.299108	0.035245	3.954098	0.052860	0.263944
(S'_(n-7))^2	0.070290	0.256452	0.002156	0.223433	0.638721	0.000000
(S'_(n-8))^2	0.037537	0.347793	0.000615	0.063495	0.802202	0.000000
(S'_(n-9))^2	0.032873	0.675090	0.000472	0.048681	0.826372	0.000000
(S'_(n-10))^2	0.176086	0.998570	0.013530	1.439925	0.236431	0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum[w_i, [S'_(i-n)]^2]
Standard error of regression = 0.032264
R squared = 0.643787 r = 0.802363

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.799640			
B1	-0.002215	0.000645	-3.435005	0.001284
B2	-0.006508	0.001031	-6.313092	0.000000
B3	0.000201	0.000063	3.181872	0.002652

RESULTS OF REGRESSION FOR VARIABLE INT:
DIVISION #2, BETWEEN 30.00 AND 58.00 (n = 44).

Partial results of regression (step #1).

Variables in: resp.

my5

Standard error of regression = 0.059982
R squared = 0.527569 r = 0.726339

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.497999			
B1	0.007576	0.001106	6.848489	0.000000

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.171165	0.712435	0.013841	1.237448	0.272444	0.000000
S'_(n-1)	0.193565	0.626765	0.017701	1.595964	0.213613	0.000000
S'_(n-2)	0.269843	0.470069	0.034400	3.219884	0.080125	0.067491
S'_(n-3)	0.361617	0.445214	0.061778	6.167999	0.017188	0.090444
S'_(n-4)	0.410644	0.791463	0.079665	8.316112	0.006234	0.102706
S'_(n-5)	0.508249	0.958391	0.122037	14.279677	0.000502	0.127118
S'_(n-6)	0.538550	0.704783	0.137022	16.749397	0.000195	0.134697
S'_(n-7)	0.523262	0.579337	0.129353	15.458535	0.000318	0.130873
S'_(n-8)	0.507690	0.516682	0.121769	14.237399	0.000511	0.126979
S'_(n-9)	0.483949	0.603664	0.110647	12.539243	0.001009	0.121041
S'_(n-10)	0.394430	0.946568	0.073499	7.553769	0.008863	0.098651

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.049381
R squared = 0.687427 r = 0.829112

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.551580			
B1	0.005999	0.000974	6.160300	0.000000
B2	-0.007665	0.001674	-4.579131	0.000043

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.030821	0.574994	0.000297	0.038033	0.846365	0.000000
(S'_(n-1))^2	0.013546	0.654580	0.000057	0.007341	0.932149	0.000000
(S'_(n-2))^2	0.004023	0.989613	0.000005	0.000647	0.979828	0.000000
(S'_(n-3))^2	0.095906	0.524349	0.002875	0.371330	0.545726	0.000000
(S'_(n-4))^2	0.135596	0.353579	0.005747	0.749224	0.391884	0.000000
(S'_(n-5))^2	0.002179	0.289302	0.000001	0.000190	0.989072	0.000000
(S'_(n-6))^2	0.069761	0.340052	0.001521	0.195616	0.660665	0.000000
(S'_(n-7))^2	0.106264	0.939662	0.003530	0.456841	0.502993	0.000000
(S'_(n-8))^2	0.156569	0.648687	0.007662	1.005198	0.322083	1.000000
(S'_(n-9))^2	0.046546	0.377947	0.000677	0.086848	0.769747	0.000000
(S'_(n-10))^2	0.077705	0.505876	0.001887	0.242989	0.624751	0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum[w_i, (S'_(i-n)]^2)
Standard error of regression = 0.049378
R squared = 0.695089 r = 0.833720

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.529380			
B1	0.006308	0.001021	6.175836	0.000000
B2	-0.008520	0.001878	-4.535772	0.000051
B3	0.000093	0.000093	1.002596	0.322083

RESULTS OF REGRESSION FOR VARIABLE INT:
DIVISION #3, BETWEEN 58.00 AND 100.00 (n = 57).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.052336
R squared = 0.237099 r = 0.486928

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	1.084062			
B1	-0.002353	0.000569	-4.134396	0.000123

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.259524	0.421073	0.051383	3.899691	0.053417	0.074103
S'_(n-1)	0.048598	0.545254	0.001802	0.127836	0.722080	0.000000
S'_(n-2)	0.035832	0.891881	0.000979	0.069421	0.793185	0.000000
S'_(n-3)	0.009792	0.969996	0.000073	0.005179	0.942898	0.000000
S'_(n-4)	0.163683	0.689724	0.020440	1.486610	0.228042	0.000000
S'_(n-5)	0.360654	0.550207	0.099231	8.074036	0.006322	0.102980
S'_(n-6)	0.550270	0.516504	0.231004	23.452338	0.000011	0.157122
S'_(n-7)	0.683987	0.561820	0.356915	47.472993	0.000000	0.195303
S'_(n-8)	0.665195	0.808634	0.337572	42.858325	0.000000	0.189937
S'_(n-9)	0.584539	0.994646	0.260672	28.027646	0.000002	0.166907
S'_(n-10)	0.398017	0.692584	0.120857	10.164846	0.002382	0.113648

Partial results of regression (step #2).

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	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	-0.133650	0.235623	0.008635	0.527425	0.473513	0.000000
(S'_(n-1))^2	0.253508	0.171524	0.031088	1.993074	0.168660	0.000000
(S'_(n-2))^2	0.560526	0.320337	0.151887	13.285749	0.001039	0.167545
(S'_(n-3))^2	0.546471	0.950827	0.147365	12.347723	0.001470	0.163344
(S'_(n-4))^2	0.623284	0.577749	0.187802	18.423074	0.000180	0.186304
(S'_(n-5))^2	0.486836	0.433954	0.114576	9.008308	0.005480	0.145519
(S'_(n-6))^2	0.377154	0.543167	0.068765	4.809205	0.036478	0.112734
(S'_(n-7))^2	0.409559	0.557864	0.081089	5.844819	0.022136	0.122420
(S'_(n-8))^2	0.341692	0.619472	0.056441	3.833404	0.059924	0.102134
(S'_(n-9))^2	0.052575	0.834059	0.001336	0.080383	0.778793	0.000000
(S'_(n-10))^2	0.265672	0.910148	0.034121	2.202301	0.148593	0.000000

Final results of regression (step #3).

Variables in: resp, sum(v_i S'_(i-n)], sum(w_i, (S'_(i-n)]^2)
Standard error of regression = 0.001605
R squared = 0.762979 r = 0.873487

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.048527			
B1	-0.000095	0.000047	-2.038450	0.050715
B2	0.000669	0.000069	9.653166	0.000000
B3	-0.000030	0.000006	-5.490704	0.000006

RESULTS OF REGRESSION FOR VARIABLE P1:
DIVISION #2, BETWEEN 20.00 AND 55.00 (n = 54).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.004388
R squared = 0.279203 r = 0.528397

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.035806			
B1	0.000283	0.000063	4.488024	0.000040

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.887450	0.538730	0.567676	189.075358	0.000000	0.197715
S'_(n-1)	0.851451	0.484886	0.522556	134.433745	0.000000	0.189695
S'_(n-2)	0.701285	0.476494	0.354488	49.354279	0.000000	0.156239
S'_(n-3)	0.434146	0.792723	0.135858	11.845263	0.001162	0.096723
S'_(n-4)	0.295650	0.948916	0.063004	4.884821	0.031607	0.065868
S'_(n-5)	0.229770	0.635555	0.038054	2.842566	0.097907	0.051190
S'_(n-6)	0.199720	0.521323	0.028751	2.118807	0.151628	0.000000
S'_(n-7)	0.196083	0.471388	0.027714	2.039287	0.159377	0.000000
S'_(n-8)	0.285203	0.558860	0.058630	4.515672	0.038452	0.063540

S'_(n-9)	0.376462	0.923717	0.102154	8.421396	0.005464	0.083872
S'_(n-10)	0.427116	0.956582	0.131494	11.379844	0.001425	0.095157

Partial results of regression (step #2).

Variables in: resp, sum(v_i S'_(i-n)].
Standard error of regression = 0.002623
R squared = 0.747356 r = 0.864497

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.043756			
B1	0.000069	0.000044	1.585143	0.119116
B2	0.000791	0.000081	9.721296	0.000000

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.030333	0.543138	0.000232	0.046048	0.830962	0.000000
(S'_(n-1))^2	0.216483	0.999430	0.011840	2.458454	0.123201	0.000000
(S'_(n-2))^2	0.189622	0.531607	0.009084	1.864886	0.178174	0.000000
(S'_(n-3))^2	0.172173	0.447334	0.007489	1.527461	0.222269	0.000000
(S'_(n-4))^2	0.337152	0.505246	0.028719	6.412512	0.014519	0.579241
(S'_(n-5))^2	0.206676	0.375696	0.010792	2.231044	0.141547	0.000000
(S'_(n-6))^2	0.086058	0.746767	0.001871	0.373059	0.544108	0.000000
(S'_(n-7))^2	0.200114	0.920436	0.010117	2.085807	0.154911	0.000000
(S'_(n-8))^2	0.209212	0.723972	0.011058	2.288663	0.136618	0.000000
(S'_(n-9))^2	0.157882	0.715394	0.006298	1.278205	0.263627	0.000000
(S'_(n-10))^2	0.244907	0.654475	0.015153	3.190318	0.080140	0.420759

Final results of regression (step #3).

Variables in: resp, sum(v_i S'_(i-n)], sum(w_i, (S'_(i-n)]^2)
Standard error of regression = 0.002619
R squared = 0.747363 r = 0.864501

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.043743			
B1	0.000069	0.000045	1.531498	0.131950
B2	0.000791	0.000082	9.625662	0.000000

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B3          0.000000          0.000006    0.336899    0.970713

RESULTS OF REGRESSION FOR VARIABLE P1:
DIVISION #3, BETWEEN 55.00 AND 100.00 (n = 63).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.003997
R squared = 0.461215  r = 0.679128

               COEF        STD ERROR     T-VALUE     P-LEVEL
B0          0.065913
B1         -0.000269         0.000037   -7.226177    0.000000

Variables not in model:
```


	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.902459	0.351354	0.438804	263.331697	0.000000	0.162388
S'_(n-1)	0.797913	0.541971	0.343026	105.136721	0.000000	0.143576
S'_(n-2)	0.643199	0.916103	0.222898	42.337502	0.000000	0.115737
S'_(n-3)	0.578498	0.944210	0.180310	30.179370	0.000001	0.104095
S'_(n-4)	0.626405	0.615247	0.211410	38.746438	0.000000	0.112715
S'_(n-5)	0.599536	0.474830	0.193663	33.668508	0.000000	0.107880
S'_(n-6)	0.467811	0.459197	0.117912	16.809555	0.000126	0.084178
S'_(n-7)	0.365317	0.579429	0.071904	9.240619	0.003505	0.065735
S'_(n-8)	0.311959	0.903845	0.052434	6.468607	0.013575	0.056134
S'_(n-9)	0.264312	0.931886	0.037640	4.506464	0.037902	0.047560
S'_(n-10)	0.205141	0.558573	0.022674	2.635894	0.109716	0.000000

```
Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.002558
R squared = 0.783016  r = 0.884882

               COEF        STD ERROR     T-VALUE     P-LEVEL
B0          0.064068
B1         -0.000268         0.000024  -11.248638    0.000000
B2          0.000599         0.000063    9.433119    0.000000

Variables not in model:
```

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.497989	0.722759	0.053811	19.456740	0.000044	0.497525
(S'_(n-1))^2	0.502944	0.462852	0.054887	19.977612	0.000036	0.502475
(S'_(n-2))^2	0.201752	0.351431	0.008832	2.503420	0.118946	0.000000
(S'_(n-3))^2	0.064646	0.246273	0.000907	0.247606	0.620616	0.000000
(S'_(n-4))^2	0.168493	0.306860	0.006160	1.723948	0.194270	0.000000
(S'_(n-5))^2	0.080845	0.737558	0.001418	0.388160	0.535669	0.000000
(S'_(n-6))^2	0.006565	0.929875	0.000009	0.002543	0.959950	0.000000
(S'_(n-7))^2	0.010971	0.571007	0.000026	0.007103	0.933121	0.000000
(S'_(n-8))^2	0.035694	0.682272	0.000276	0.075266	0.784776	0.000000
(S'_(n-9))^2	0.011721	0.652283	0.000030	0.008107	0.928561	0.000000
(S'_(n-10))^2	0.076063	0.639885	0.001255	0.343332	0.560147	0.000000

```
Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum(w_i, [S'_(i-n)]^2)
Standard error of regression = 0.002181
R squared = 0.844794  r = 0.919127

               COEF        STD ERROR     T-VALUE     P-LEVEL
B0          0.057438
B1         -0.000199         0.000025   -8.049210    0.000000
B2          0.000461         0.000061    7.558160    0.000000
B3          0.000016         0.000003    4.846069    0.000010

OVERALL REGRESSION FOR P1:
REGRESSION EQUATION = 1/P1 = b0 + b1 (ph1) + b2 SUM(v S') + b3 SUM (w S'^2)
R squared = 0.822419, r = 0.906873, p = 0.000000.

RESULTS OF REGRESSION FOR VARIABLE P2:
```



```
DIVISION #1, BETWEEN 0.00 AND 30.00 (n = 49).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.001786
R squared = 0.587113  r = 0.766233
```

R squared = 0.400918 r = 0.633181

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.035118			
B1	-0.000333	0.000148	-2.251419	0.042296
B2	-0.000067	0.000048	-1.397229	0.185737

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.324620	0.943621	0.063130	1.413487	0.257473	0.000000
(S'_(n-1))^2	0.142628	0.756763	0.012187	0.249183	0.626676	0.000000
(S'_(n-2))^2	0.137399	0.473720	0.011310	0.230901	0.639498	0.000000
(S'_(n-3))^2	0.121675	0.510684	0.008869	0.180328	0.678606	0.000000
(S'_(n-4))^2	0.326590	0.508549	0.063898	1.432746	0.254429	0.000000

(S'_(n-5))^2	0.424448	0.342807	0.107928	2.636930	0.130364	1.000000
(S'_(n-6))^2	0.094990	0.674630	0.005406	0.109263	0.746685	0.000000
(S'_(n-7))^2	0.026396	0.501005	0.000417	0.008367	0.928627	0.000000
(S'_(n-8))^2	0.201919	0.366804	0.024425	0.510052	0.488776	0.000000
(S'_(n-9))^2	0.311257	0.266461	0.058040	1.287286	0.278705	0.000000
(S'_(n-10))^2	0.267498	0.214185	0.042867	0.924838	0.355186	0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum[w_i, (S'_(i-n)]^2)
Standard error of regression = 0.001360
R squared = 0.508846 r = 0.713335

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.031230			
B1	-0.000162	0.000174	-0.927141	0.372125
B2	-0.000163	0.000074	-2.191624	0.048865
B3	-0.000015	0.000009	-1.623863	0.130364

RESULTS OF REGRESSION FOR VARIABLE P2:
DIVISION #3, BETWEEN 40.00 AND 65.00 (n = 37).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.001767
R squared = 0.352539 r = 0.593750

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.015259			
B1	0.000168	0.000038	4.365466	0.000107

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.321907	0.887024	0.067093	3.930511	0.055545	0.059441
S'_(n-1)	0.356989	0.730399	0.082513	4.965863	0.032571	0.065919
S'_(n-2)	0.466145	0.674031	0.140687	9.438874	0.004164	0.086075
S'_(n-3)	0.530277	0.533828	0.182062	13.300623	0.000879	0.097918
S'_(n-4)	0.606025	0.536631	0.237791	19.735094	0.000090	0.111905
S'_(n-5)	0.539624	0.888201	0.188537	13.968031	0.000683	0.099644
S'_(n-6)	0.484919	0.937377	0.152248	10.452962	0.002723	0.089542
S'_(n-7)	0.514829	0.698232	0.171609	12.261594	0.001315	0.095065
S'_(n-8)	0.544139	0.589942	0.191705	14.301408	0.000602	0.100477
S'_(n-9)	0.560540	0.563926	0.203436	15.577491	0.000377	0.103506
S'_(n-10)	0.490152	0.740600	0.155552	10.751486	0.002409	0.090508

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.001321
R squared = 0.648372 r = 0.805216

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.014460			
B1	0.000175	0.000029	6.076706	0.000001

B2	-0.000290	0.000054	-5.348370	0.000006

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.011195	0.521525	0.000044	0.004136	0.949109	0.000000
(S'_(n-1))^2	0.000505	0.422818	0.000000	0.000008	0.997702	0.000000
(S'_(n-2))^2	0.156699	0.679617	0.008634	0.830700	0.368680	0.000000
(S'_(n-3))^2	0.262912	0.880541	0.024305	2.450425	0.127033	1.000000

(S'_(n-4))^2	0.229653	0.262346	0.018545	1.837344	0.184468	0.000000
(S'_(n-5))^2	0.062124	0.186491	0.001357	0.127855	0.722944	0.000000
(S'_(n-6))^2	0.104384	0.327049	0.003831	0.363528	0.550675	0.000000
(S'_(n-7))^2	0.084596	0.283359	0.002516	0.237865	0.628977	0.000000
(S'_(n-8))^2	0.018029	0.643185	0.000114	0.010730	0.918124	0.000000
(S'_(n-9))^2	0.061552	0.865108	0.001332	0.125500	0.725398	0.000000
(S'_(n-10))^2	0.022247	0.630756	0.000174	0.016341	0.899058	0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum(w_i, [S'_(i-n)]^2)
Standard error of regression = 0.001294
R squared = 0.672678 r = 0.820169

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.015218			
B1	0.000166	0.000029	5.778210	0.000002
B2	-0.000315	0.000055	-5.680744	0.000002
B3	-0.000007	0.000004	-1.565383	0.127033

RESULTS OF REGRESSION FOR VARIABLE P2:
DIVISION #4, BETWEEN 65.00 AND 100.00 (n = 48).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.001711
R squared = 0.545236 r = 0.738401

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.037196			
B1	-0.000182	0.000025	-7.426395	0.000000

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.383509	0.516330	0.066886	7.759868	0.007791	0.352117
S'_(n-1)	0.409982	0.554450	0.076439	9.092061	0.004210	0.376423
S'_(n-2)	0.295660	0.778269	0.039753	4.310464	0.043621	0.271459
S'_(n-3)	0.132890	0.999487	0.008031	0.808970	0.373213	0.000000
S'_(n-4)	0.120459	0.834853	0.006599	0.662585	0.419935	0.000000
S'_(n-5)	0.117087	0.716807	0.006235	0.625502	0.433159	0.000000
S'_(n-6)	0.034159	0.659564	0.000531	0.052570	0.819689	0.000000
S'_(n-7)	0.020166	0.646418	0.000185	0.018308	0.892972	0.000000
S'_(n-8)	0.100506	0.776066	0.004594	0.459206	0.501465	0.000000
S'_(n-9)	0.148028	0.992211	0.009965	1.008142	0.320717	0.000000
S'_(n-10)	0.081643	0.829856	0.003031	0.301967	0.585369	0.000000

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.001598
R squared = 0.612021 r = 0.782318

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.032294			
B1	-0.000128	0.000030	-4.283347	0.000096
B2	0.000103	0.000037	2.783184	0.007841

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.397124	0.921285	0.061187	8.238383	0.006282	0.299808
(S'_(n-1))^2	0.258572	0.431377	0.025940	3.152602	0.082723	0.195208
(S'_(n-2))^2	0.178970	0.238484	0.012427	1.455959	0.234022	0.000000
(S'_(n-3))^2	0.101858	0.315458	0.004025	0.461288	0.500580	0.000000
(S'_(n-4))^2	0.121560	0.367863	0.005733	0.659932	0.420958	0.000000
(S'_(n-5))^2	0.096301	0.536555	0.003598	0.411869	0.524352	0.000000
(S'_(n-6))^2	0.092482	0.983155	0.003318	0.379573	0.541006	0.000000
(S'_(n-7))^2	0.334322	0.620075	0.043365	5.536802	0.023155	0.252396
(S'_(n-8))^2	0.334578	0.518543	0.043431	5.546329	0.023044	0.252588
(S'_(n-9))^2	0.149247	0.807198	0.008642	1.002415	0.322202	0.000000
(S'_(n-10))^2	0.140836	0.666333	0.007695	0.890391	0.350524	0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum(w_i, [S'_(i-n)]^2)
Standard error of regression = 0.001609
R squared = 0.615438 r = 0.784499

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.033719			
B1	-0.000142	0.000037	-3.822199	0.000412
B2	0.000103	0.000037	2.757587	0.008447
B3	-0.000003	0.000005	-0.625276	0.535020

OVERALL REGRESSION FOR P2:
REGRESSION EQUATION = 1/P2 = b0 + b1 (ph1) + b2 SUM(v S') + b3 SUM (w S'^2)
R squared = 0.770568, r = 0.877820, p = 0.000000.

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Results of detrending for pp :
Division #1, between 0.00 and 8.00 (n = 12).
Detrending equation: PP = b0 + b1 (PHI)
Standard error of regression = 2.559511
R squared = 0.163825 r = 0.404754

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	-9.950771	1.567049	-6.350007	0.000084
B1	0.437958	0.312883	1.399723	0.191846

Results of detrending for pp :
Division #2, between 8.00 and 58.00 (n = 87).

Detrending equation: PP = b0 + b1 (PHI)
Standard error of regression = 3.407766
R squared = 0.711397 r = 0.843444

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	-10.732497	0.914536	-11.735451	0.000000
B1	0.373073	0.025774	14.474885	0.000000

Results of detrending for pp :
Division #3, between 58.00 and 100.00 (n = 60).
Detrending equation: PP = b0 + b1 (PHI)
Standard error of regression = 3.970258
R squared = 0.611459 r = 0.781958

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	31.878572	3.418260	9.325965	0.000000
B1	-0.402849	0.042166	-9.553863	0.000000

Overall detrending for pp:
R squared = 0.477799, r = 0.691230, p = 0.000000.

Results of detrending for int :
Division #1, between 0.00 and 30.00 (n = 49).
Detrending equation: INT = b0 + b1 (PHI)
Standard error of regression = 0.054033
R squared = 0.238544 r = 0.488409

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	-0.008589	0.016007	-0.536559	0.593952
B1	-0.003516	0.000888	-3.957732	0.000239

Results of detrending for int :
Division #2, between 30.00 and 58.00 (n = 44).
Detrending equation: INT = b0 + b1 (PHI)
Standard error of regression = 0.062017
R squared = 0.498458 r = 0.706016

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	-0.331433	0.049508	-6.694472	0.000000
B1	0.007445	0.001113	6.687551	0.000000

Results of detrending for int :
Division #3, between 58.00 and 100.00 (n = 57).
Detrending equation: INT = b0 + b1 (PHI)
Standard error of regression = 0.053366
R squared = 0.261163 r = 0.511041

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.264028	0.045946	5.746485	0.000000
B1	-0.002566	0.000567	-4.527888	0.000030

Overall detrending for int:
R squared = 0.572701, r = 0.756770, p = 0.000000.

Results of detrending for p1 :
Division #1, between 0.00 and 20.00 (n = 33).
Detrending equation: P1 = b0 + b1 (PHI)
Standard error of regression = 1.806648
R squared = 0.003729 r = 0.061069

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	1.130236	0.647123	1.746556	0.090018

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B1          0.017768          0.050554    0.351469    0.727471


Results of detrending for p1 :
Division #2, between 20.00 and 55.00 (n = 54).
Detrending equation: P1 = b0 + b1 (PHI)
Standard error of regression = 2.202977
R squared = 0.230456  r = 0.480058

                COEF        STD ERROR     T-VALUE     P-LEVEL
B0          3.794240         1.162779    3.263079    0.001881
B1         -0.124593         0.030424   -4.095165    0.000137


Results of detrending for p1 :
Division #3, between 55.00 and 100.00 (n = 63).
Detrending equation: P1 = b0 + b1 (PHI)
Standard error of regression = 2.379988
R squared = 0.327337  r = 0.572134

                COEF        STD ERROR     T-VALUE     P-LEVEL
B0         -9.531329         1.731968   -5.503177    0.000001
B1          0.122085         0.021876    5.580698    0.000001


Overall detrending for p1:
R squared = 0.324282, r = 0.569458, p = 0.000000.

Results of detrending for p2 :
Division #1, between 0.00 and 30.00 (n = 49).
Detrending equation: P2 = b0 + b1 (PHI)
Standard error of regression = 4.351727
R squared = 0.586084  r = 0.765561

                COEF        STD ERROR     T-VALUE     P-LEVEL
B0         14.432962         1.289184   11.195426    0.000000
B1         -0.601987         0.071545   -8.414114    0.000000


Results of detrending for p2 :
Division #2, between 30.00 and 40.00 (n = 16).
Detrending equation: P2 = b0 + b1 (PHI)
Standard error of regression = 3.217595
R squared = 0.246670  r = 0.496659




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                COEF        STD ERROR     T-VALUE     P-LEVEL
B0        -27.165670        11.205736   -2.424265    0.028442
B1          0.711416         0.321005    2.216214    0.042557


Results of detrending for p2 :
Division #3, between 40.00 and 65.00 (n = 37).
Detrending equation: P2 = b0 + b1 (PHI)
Standard error of regression = 2.998333
R squared = 0.359116  r = 0.599263

                COEF        STD ERROR     T-VALUE     P-LEVEL
B0         10.360045         3.295313    3.143872    0.003230
B1         -0.288550         0.062532   -4.614446    0.000044


Results of detrending for p2 :
Division #4, between 65.00 and 100.00 (n = 48).
Detrending equation: P2 = b0 + b1 (PHI)
Standard error of regression = 3.929560
R squared = 0.488910  r = 0.699221

                COEF        STD ERROR     T-VALUE     P-LEVEL
B0        -31.901044         4.680941   -6.815092    0.000000
B1          0.376191         0.055516    6.776204    0.000000


Overall detrending for p2:
R squared = 0.285773, r = 0.534577, p = 0.000000.

Results of linear model for pp :
Linear model equation: PP = b0 + b1 (I_n-1) + b2 (D_n)
Standard error of linear model = 3.190240
R squared = 0.192767  r = 0.439053

                COEF        STD ERROR     T-VALUE           P
B0         54.539776         6.329676    8.616520    0.000000
B1        -13.364102         4.774247   -2.799206    0.005770
B2          0.219509         0.054864    4.000949    0.000097

Overall results of linear modelling of pp
   after retrending: R-squared = 0.772249, r = 0.878777.


Results of linear model for int :
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Linear model equation: INT = b0 + b1 (S_n) + ... + b(1+m) (S_n-m)
Standard error of linear model = 0.041208
R squared = 0.384715 r = 0.620254

	COEF	STD ERROR	T-VALUE	P
B0	1.476266	0.086614	17.044142	0.000000
B1	-0.005478	0.001313	-4.171245	0.000051
B2	0.006852	0.002166	3.163460	0.001885
B3	-0.000916	0.002301	-0.398015	0.691182
B4	-0.001517	0.002289	-0.662825	0.508453
B5	0.001573	0.002306	0.682025	0.496268

B6	-0.004615	0.002355	-1.959849	0.051855
B7	-0.000095	0.002290	-0.041556	0.966907
B8	0.001450	0.002284	0.635010	0.526383
B9	0.000581	0.002228	0.260877	0.794543
B10	-0.002728	0.001725	-1.581345	0.115891
B11	-0.000271	0.000742	-0.365895	0.714956

Overall results of linear modelling of int
after retrending: R-squared = 0.777755, r = 0.881904.

Results of linear model for p1 :
Linear model equation: P1 = b0 + b1 (S_n) + ... + b(1+m) (S_n-m)
Standard error of linear model = 1.117353
R squared = 0.705300 r = 0.839821

	COEF	STD ERROR	T-VALUE	P
B0	59.878182	2.348569	25.495605	0.000000
B1	-0.174529	0.035607	-4.901485	0.000002
B2	-0.033718	0.058735	-0.574066	0.566777
B3	-0.099683	0.062405	-1.597361	0.112276
B4	0.160209	0.062058	2.581575	0.010786
B5	-0.026935	0.062521	-0.430813	0.667219
B6	-0.073919	0.063852	-1.157668	0.248827
B7	-0.052696	0.062084	-0.848775	0.397350
B8	0.039430	0.061934	0.636646	0.525319
B9	-0.068403	0.060419	-1.132148	0.259367
B10	0.041007	0.046772	0.876740	0.382021
B11	-0.009779	0.020117	-0.486099	0.627601

Overall results of linear modelling of p1
after retrending: R-squared = 0.826132, r = 0.908918.

Results of linear model for p2 :
Linear model equation: P2 = b0 + b1 (S_n) + ... + b(1+m) (S_n-m)
Standard error of linear model = 3.436065
R squared = 0.174544 r = 0.417784

	COEF	STD ERROR	T-VALUE	P
B0	48.867346	7.222275	6.766199	0.000000
B1	-0.284380	0.109499	-2.597104	0.010331
B2	0.011998	0.180620	0.066424	0.947128
B3	0.114834	0.191907	0.598383	0.550481
B4	0.065854	0.190841	0.345075	0.730518
B5	0.067287	0.192263	0.349975	0.726845
B6	-0.229224	0.196356	-1.167389	0.244893
B7	0.145758	0.190921	0.763445	0.446389
B8	0.033739	0.190459	0.177147	0.859630
B9	-0.128285	0.185800	-0.690451	0.490971
B10	0.092009	0.143832	0.639697	0.523339
B11	0.093408	0.061864	1.509890	0.133161

Overall results of linear modelling of p2
after retrending: R-squared = 0.745293, r = 0.863304.

Results of linear model for diast :
Linear model equation: D_n+1 = b0 + b1(D) + b2(D') + b3(D'') + b4(PP) + b5(INT) + b6(P1) + b7(P2)
Standard error of linear model = 2.163315
R squared = 0.819680 r = 0.905362

	COEF	STD ERROR	T-VALUE	P
B0	23.905604	8.552398	2.795193	0.005861
B1	0.846446	0.043298	19.549482	0.000000
B2	-0.029018	0.026062	-1.113442	0.267288
B3	0.001274	0.001578	0.807422	0.420693
B4	-0.095605	0.054963	-1.739466	0.083991
B5	-7.434711	3.384852	-2.196466	0.029583

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B6	-0.134662	0.122627	-1.098140	0.273891
B7	0.002696	0.038381	0.070239	0.944096

Results of linear model for ddiast :
Linear model equation: D''_n+1 = b0 + b1(D) + b2(D') + b3(D'') + b4(PP) + b5(INT) + b6(P1) + b7(P2)
Standard error of linear model = 16.959434
R squared = 0.091265 r = 0.302101

	COEF	STD ERROR	T-VALUE	P
B0	-61.691455	67.047017	-0.920122	0.358976
B1	-0.460376	0.339434	-1.356304	0.177027
B2	0.222967	0.204311	1.091309	0.276875
B3	-0.018890	0.012372	-1.526911	0.128875
B4	0.231776	0.430882	0.537911	0.591430
B5	19.381395	26.535742	0.730388	0.466285
B6	1.001928	0.961343	1.042217	0.298977
B7	0.194709	0.300892	0.647107	0.518545

Results of linear model for dddiast :
Linear model equation: D''_n+1 = b0 + b1(D) + b2(D') + b3(D'') + b4(PP) + b5(INT) + b6(P1) + b7(P2)
Standard error of linear model = 276.007209
R squared = 0.041758 r = 0.204349

	COEF	STD ERROR	T-VALUE	P
B0	241.047353	1091.160221	0.220909	0.825462
B1	-7.457043	5.524142	-1.349901	0.179068
B2	1.330746	3.325075	0.400215	0.689563
B3	-0.214495	0.201341	-1.065330	0.288427
B4	2.159342	7.012415	0.307931	0.758559
B5	-247.676011	431.857330	-0.573514	0.567150
B6	7.030037	15.645434	0.449335	0.653834
B7	3.055301	4.896876	0.623929	0.533616

Results of windkessel model for diast :
Overall results for diast:
R-squared = 0.990063, r = 0.995019.

NONLINEAR FORECAST RESULTS (In-sample, n = 140):

STEP	PP	INT	P1	P2	DIAST
0	0.904663	0.890933	0.893183	0.862157	1.000000
1	0.786249	0.885104	0.842594	0.819317	0.764883
2	0.713564	0.883819	0.692733	0.706529	0.720144

3	0.627308	0.880674	0.538019	0.585054	0.629306
4	0.556933	0.860516	0.366762	0.452799	0.541608
5	0.440117	0.812129	0.129178	0.459269	0.411451
6	0.378657	0.770046	-0.044017	0.436199	0.377428
7	0.290969	0.753338	-0.120235	0.463174	0.319559
8	0.283100	0.774489	-0.083442	0.479775	0.299388
9	0.398589	0.798959	-0.072336	0.531849	0.354635
10	0.475466	0.791272	0.124885	0.588443	0.466339

NONLINEAR FORECAST RESULTS (Out-of-sample, n = 92):

STEP	PP	INT	P1	P2	DIAST
0	0.846105	0.834274	0.074359	0.486234	1.000000
1	0.784479	0.829103	0.035980	0.477873	0.719303
2	0.728595	0.825575	-0.017283	0.453951	0.672871
3	0.669041	0.819321	-0.130426	0.420817	0.620436
4	0.666099	0.809720	-0.186776	0.425893	0.589899
5	0.602578	0.786563	-0.249780	0.437831	0.572593
6	0.551979	0.777471	-0.263406	0.375286	0.513314
7	0.544748	0.810787	-0.227010	0.398807	0.484759
8	0.573379	0.838692	-0.088923	0.486325	0.516888
9	0.585911	0.864279	0.148689	0.521393	0.615095
10	0.417374	0.867097	0.372785	0.533728	0.442866

LINEAR FORECAST RESULTS (In-sample, n = 140):

STEP	PP	INT	P1	P2	DIAST
0	0.887777	0.897653	0.877358	0.846779	1.000000
1	0.876104	0.829342	0.845624	0.839184	0.888784
2	0.872874	0.845598	0.787231	0.806914	0.635046
3	0.871771	0.857435	0.676474	0.831960	0.329893
4	0.869684	0.849509	0.662333	0.814769	0.063535
5	0.858473	0.857357	0.659535	0.809292	-0.106435
6	0.851816	0.855965	0.651862	0.807966	-0.144411
7	0.848705	0.850819	0.645788	0.796363	-0.080404
8	0.851977	0.841249	0.672971	0.770672	0.069780
9	0.851863	0.845009	0.695607	0.759397	0.255195
10	0.848751	0.823697	0.698959	0.731245	0.426081

LINEAR FORECAST RESULTS (Out-of-sample, n = 92):

STEP	PP	INT	P1	P2	DIAST
0	0.819309	0.873279	0.401109	0.609851	1.000000
1	0.818187	0.833249	0.361056	0.631768	0.827131

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2	0.821638	0.842672	0.317322	0.655662	0.495962
3	0.819149	0.859335	0.246594	0.667403	0.151622
4	0.794969	0.868832	0.282458	0.651187	-0.112495
5	0.777866	0.874454	0.346646	0.653033	-0.266025
6	0.756416	0.876449	0.477373	0.654869	-0.287424
7	0.751986	0.864974	0.572713	0.642252	-0.231283
8	0.755922	0.849607	0.617560	0.640400	-0.075784
9	0.748558	0.873988	0.605537	0.634991	0.125164
10	0.755084	0.853799	0.594144	0.637664	0.364249

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Error analysis for long forecast into file nl16.00:
Errors in p1: 0
Errors in p2: 0
Errors in p5: 0
Post inflection adjustment in p5: 5

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In-sample data for beats 67 through 200 (n = 123):

BEATNO	TIME	INT	DIAS	DIAS'	DIAS''	SYST	PP	P1	P2	P3	P4	P5	P6	RESP
AVG	3176.741	0.903	58.81	-27.37	-43.04	105.70	46.89	23.93	36.44	454.28	105311.55	46.69	7.09	50.96
STDDEV	32.351	0.046	2.05	17.07	304.03	3.62	2.24	3.20	3.12	47.27	8533.86	2.64	9.15	28.50

Out-of-sample data for beats 201 through 353 (n = 146):

BEATNO	TIME	INT	DIAS	DIAS'	DIAS''	SYST	PP	P1	P2	P3	P4	P5	P6	RESP
AVG	3313.763	0.925	57.16	-27.25	-90.87	101.02	43.86	24.42	33.34	450.93	99587.07	44.85	7.95	49.34
STDDEV	39.077	0.038	1.65	17.78	313.07	2.89	1.90	3.32	2.66	47.89	7894.67	2.27	12.12	28.43

Results of regression for p3 :

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Regression equation: P3 = b0 + b1 (P1) + b2 (P1)^2
Standard error of regression = 31.286853
R squared = 0.569188 r = 0.754446

	COEF	STD ERROR	T-VALUE	P
B0	837.657586	113.606472	7.373326	0.000000
B1	-39.073441	8.839515	-4.420315	0.000022
B2	0.946494	0.169677	5.578222	0.000000

Results of regression for p4 :
Regression equation: P4 = b0 + b1 (PP)
Standard error of regression = 5702.252902
R squared = 0.557180 r = 0.746445

	COEF	STD ERROR	T-VALUE	P
B0	-27756.254017	10796.661046	-2.570818	0.011357
B1	2838.166992	230.017780	12.338903	0.000000

Results of regression for p5 :
Regression equation: P5 = b0 + b1 (P2) + b2 (P2)^2 + b3 (P2)^3
Standard error of regression = 2.594679
R squared = 0.060062 r = 0.245075

	COEF	STD ERROR	T-VALUE	P
B0	-271.820274	171.553479	-1.584464	0.115742
B1	24.666886	13.785199	1.789375	0.076098
B2	-0.634075	0.367235	-1.726618	0.086831
B3	0.005413	0.003243	1.669342	0.097678

Results of regression for p6 :
Regression equation: P6 = b0 + b1 (P1)
Standard error of regression = 8.562833
R squared = 0.131688 r = 0.362888

	COEF	STD ERROR	T-VALUE	P
B0	-17.739062	5.846652	-3.034055	0.002954
B1	1.037331	0.242153	4.283781	0.000037

Results of regression for pp :
Division #1, between 0.00 and 30.00 (n = 37).
Regression equation: PP = b0 + b1 (PHI) + b2 (I_n-1) + b3 (D)
Standard error of regression = 1.491067
R squared = 0.472034 r = 0.687047

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	-2.892719	12.408758	-0.233119	0.817109
B1	-0.042486	0.029795	-1.425920	0.163283
B2	27.707871	6.232595	4.445640	0.000093
B3	0.410927	0.138327	2.970682	0.005506

Results of regression for pp :
Division #2, between 30.00 and 70.00 (n = 47).
Regression equation: PP = b0 + b1 (PHI) + b2 (I_n-1) + b3 (D)
Standard error of regression = 1.631596
R squared = 0.569237 r = 0.754478

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	-29.815617	12.892261	-2.312676	0.025592
B1	0.071075	0.023192	3.064638	0.003756
B2	28.101545	7.891185	3.561131	0.000917
B3	0.826883	0.140400	5.889472	0.000001

Results of regression for pp :
Division #3, between 70.00 and 100.00 (n = 38).
Regression equation: PP = b0 + b1 (PHI) + b2 (I_n-1) + b3 (D)
Standard error of regression = 1.194676
R squared = 0.599264 r = 0.774122

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	-12.114413	9.563792	-1.266696	0.213873
B1	-0.064261	0.022347	-2.875666	0.006911
B2	37.971446	6.293713	6.033235	0.000001
B3	0.513089	0.111593	4.597853	0.000057

Overall regression for pp:
R squared = 0.607804, r = 0.779618, p = 0.000000.

RESULTS OF REGRESSION FOR VARIABLE INT:
DIVISION #1, BETWEEN 0.00 AND 30.00 (n = 35).

Partial results of regression (step #1).

Variables in: resp.

my5

Standard error of regression = 0.041401
R squared = 0.285246 r = 0.534084

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.935560			
B1	-0.002945	0.000811	-3.629012	0.000951

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.030228	0.878689	0.000653	0.029267	0.865242	0.000000
S'_(n-1)	0.107400	0.929237	0.008245	0.373423	0.545461	0.000000
S'_(n-2)	0.161948	0.999605	0.018746	0.861873	0.360165	0.000000
S'_(n-3)	0.001723	0.971182	0.000002	0.000095	0.992284	0.000000
S'_(n-4)	0.037940	0.866078	0.001029	0.046129	0.831304	0.000000
S'_(n-5)	0.182665	0.995094	0.023849	1.104586	0.301134	0.000000
S'_(n-6)	0.187850	0.954895	0.025222	1.170511	0.287382	0.000000
S'_(n-7)	0.036772	0.999663	0.000966	0.043327	0.836430	0.000000
S'_(n-8)	0.098113	0.982117	0.006880	0.311028	0.580931	0.000000
S'_(n-9)	0.211114	0.866039	0.031856	1.492738	0.230716	1.000000
S'_(n-10)	0.187488	0.868454	0.025125	1.165835	0.288330	0.000000

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.041096
R squared = 0.317102 r = 0.563118

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.929234			
B1	-0.002558	0.000865	-2.955143	0.005823
B2	-0.002412	0.001974	-1.221777	0.230716

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.088077	0.828064	0.005298	0.242365	0.625972	0.000000
(S'_(n-1))^2	0.199121	0.988691	0.027076	1.279871	0.266599	0.000000
(S'_(n-2))^2	0.381051	0.928834	0.099157	5.265781	0.028680	0.464581
(S'_(n-3))^2	0.439153	0.832286	0.131700	7.406985	0.010562	0.535419
(S'_(n-4))^2	0.179971	0.937740	0.022119	1.037690	0.316244	0.000000
(S'_(n-5))^2	0.104109	0.839555	0.007402	0.339681	0.564229	0.000000
(S'_(n-6))^2	0.016316	0.963248	0.000182	0.008255	0.928191	0.000000
(S'_(n-7))^2	0.224083	0.952059	0.034290	1.638900	0.209973	0.000000
(S'_(n-8))^2	0.288148	0.907192	0.056700	2.806964	0.103916	0.000000
(S'_(n-9))^2	0.164008	0.913597	0.018369	0.856906	0.361757	0.000000
(S'_(n-10))^2	0.077139	0.422789	0.004064	0.185569	0.669611	0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum[w_i, (S'_(i-n))^2]
Standard error of regression = 0.037533
R squared = 0.448168 r = 0.669453

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.899129			
B1	-0.001941	0.000822	-2.359422	0.024782
B2	-0.004105	0.001908	-2.151900	0.039306
B3	0.001622	0.000598	2.713454	0.010773

RESULTS OF REGRESSION FOR VARIABLE INT:
DIVISION #2, BETWEEN 30.00 AND 70.00 (n = 44).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.033682
R squared = 0.345309 r = 0.587630

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.783112			
B1	0.002209	0.000469	4.706633	0.000027

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.271648	0.878795	0.048311	3.266540	0.078048	0.151864
S'_(n-1)	0.361102	0.956118	0.085368	6.147828	0.017359	0.201873
S'_(n-2)	0.309072	0.840916	0.062540	4.330192	0.043729	0.172786
S'_(n-3)	0.321672	0.901447	0.067743	4.732028	0.035426	0.179830

my5

S'_(n-4)	0.261955	0.994650	0.044925	3.020724	0.089713	0.146445
S'_(n-5)	0.231203	0.945469	0.034996	2.315412	0.135773	0.000000
S'_(n-6)	0.263311	0.853454	0.045391	3.054401	0.088005	0.147203
S'_(n-7)	0.149361	0.993156	0.014605	0.935526	0.339102	0.000000
S'_(n-8)	0.031517	0.831383	0.000650	0.040766	0.840989	0.000000
S'_(n-9)	0.061280	0.926409	0.002458	0.154543	0.696268	0.000000
S'_(n-10)	0.041320	0.998701	0.001118	0.070121	0.792487	0.000000

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.032006
R squared = 0.422924 r = 0.650326

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.786703			
B1	0.002166	0.000446	4.853210	0.000018
B2	0.004198	0.001788	2.348278	0.023764

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.258550	0.993156	0.038576	2.865477	0.098275	0.125525
(S'_(n-1))^2	0.234135	0.669100	0.031635	2.319950	0.135592	0.000000
(S'_(n-2))^2	0.318013	0.683730	0.058361	4.500417	0.040133	0.154394
(S'_(n-3))^2	0.466796	0.997234	0.125744	11.144247	0.001831	0.226628
(S'_(n-4))^2	0.570401	0.823373	0.187756	19.290623	0.000080	0.276927
(S'_(n-5))^2	0.445990	0.985405	0.114784	9.931785	0.003074	0.216526
(S'_(n-6))^2	0.209886	0.786569	0.025421	1.843279	0.182178	0.000000
(S'_(n-7))^2	0.216252	0.688820	0.026987	1.962372	0.168970	0.000000
(S'_(n-8))^2	0.200525	0.935396	0.023204	1.675791	0.202908	0.000000
(S'_(n-9))^2	0.139966	0.997143	0.011305	0.799275	0.376658	0.000000
(S'_(n-10))^2	0.021268	0.960541	0.000261	0.018102	0.893648	0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum[w_i, [S'_(i-n)]^2]
Standard error of regression = 0.026227
R squared = 0.621950 r = 0.788638

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.764618			
B1	0.002144	0.000366	5.861631	0.000001
B2	0.003695	0.001469	2.515712	0.015996
B3	0.002048	0.000446	4.588913	0.000043

RESULTS OF REGRESSION FOR VARIABLE INT:
DIVISION #3, BETWEEN 70.00 AND 100.00 (n = 34).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.042942
R squared = 0.001624 r = 0.040302

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.917527			
B1	0.000187	0.000817	0.228169	0.820966

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.238166	0.952500	0.056631	1.864151	0.181973	0.322684
S'_(n-1)	0.254424	0.997381	0.064726	2.145558	0.153052	0.344712
S'_(n-2)	0.199500	0.926889	0.039736	1.284952	0.265671	0.000000
S'_(n-3)	0.204970	0.987979	0.041944	1.359508	0.252515	0.000000
S'_(n-4)	0.245487	0.836841	0.060166	1.987986	0.168506	0.332604
S'_(n-5)	0.164043	0.911525	0.026866	0.857278	0.361654	0.000000
S'_(n-6)	0.091348	0.999738	0.008331	0.260855	0.613151	0.000000
S'_(n-7)	0.015807	0.911322	0.000249	0.007748	0.930425	0.000000
S'_(n-8)	0.098817	0.862955	0.009749	0.305691	0.584302	0.000000
S'_(n-9)	0.163475	0.989143	0.026681	0.851199	0.363339	0.000000
S'_(n-10)	0.120523	0.924286	0.014502	0.456933	0.504073	0.000000

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.041892
R squared = 0.079547 r = 0.282040

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.885463			
B1	0.000513	0.000823	0.624148	0.537097
B2	0.004759	0.002938	1.619984	0.115365

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.316148	0.853910	0.091999	3.331466	0.077938	0.490418
(S'_(n-1))^2	0.328501	0.736323	0.099329	3.629015	0.066406	0.509582

(S'_(n-2))^2	0.245953	0.958391	0.055681	1.931639	0.174807	0.000000
(S'_(n-3))^2	0.154585	0.566940	0.021996	0.734450	0.398239	0.000000
(S'_(n-4))^2	0.195755	0.838888	0.035272	1.195407	0.282944	0.000000
(S'_(n-5))^2	0.277482	0.924730	0.070872	2.502584	0.124147	0.000000
(S'_(n-6))^2	0.177708	0.868104	0.029068	0.978300	0.330530	0.000000

(S'_(n-7))^2	0.087558	0.994955	0.007057	0.231772	0.633706	0.000000
(S'_(n-8))^2	0.205913	0.835458	0.039027	1.328320	0.258206	0.000000
(S'_(n-9))^2	0.266884	0.920128	0.065561	2.300687	0.139785	0.000000
(S'_(n-10))^2	0.202478	0.996131	0.037736	1.282504	0.266404	0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum(w_i, [S'_(i-n)]^2)
Standard error of regression = 0.040139
R squared = 0.182211 r = 0.426861

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.876916			
B1	0.000464	0.000789	0.588879	0.560351
B2	0.001953	0.003165	0.617094	0.541828
B3	0.001269	0.000654	1.940659	0.061748

OVERALL REGRESSION FOR INT:
REGRESSION EQUATION = I_n = b0 + b1 (phi) + b2 SUM(v S') + b3 SUM (w S'^2)
R squared = 0.535857, r = 0.732022, p = 0.000000.

RESULTS OF REGRESSION FOR VARIABLE P1:
DIVISION #1, BETWEEN 0.00 AND 25.00 (n = 25).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.003534
R squared = 0.059526 r = 0.243980

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.043818			
B1	0.000139	0.000115	1.206551	0.239869

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.534617	0.883808	0.268802	8.804356	0.007114	0.190479
S'_(n-1)	0.556977	0.982749	0.291757	9.894404	0.004697	0.198446
S'_(n-2)	0.428208	0.990177	0.172447	4.939710	0.036838	0.152567
S'_(n-3)	0.443242	0.998495	0.184769	5.378974	0.030057	0.157923
S'_(n-4)	0.484386	0.999348	0.220663	6.744267	0.016455	0.172582
S'_(n-5)	0.026725	0.946926	0.000672	0.015724	0.901349	0.000000
S'_(n-6)	0.161979	0.962854	0.024675	0.592772	0.449538	0.000000
S'_(n-7)	0.065578	0.999403	0.004044	0.095019	0.760790	0.000000
S'_(n-8)	0.141783	0.995991	0.018906	0.451328	0.508699	0.000000
S'_(n-9)	0.359263	0.978239	0.121387	3.260359	0.084677	0.128002
S'_(n-10)	0.248923	0.982981	0.058274	1.453223	0.240818	0.000000

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.003046
R squared = 0.331720 r = 0.575951

	COEF	STD ERROR	T-VALUE	P-LEVEL

B0	0.043586			
B1	0.000159	0.000099	1.602383	0.123333
B2	0.000677	0.000226	2.993442	0.006696

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.338370	0.749962	0.076514	2.715254	0.114276	0.000000
(S'_(n-1))^2	0.363397	0.841225	0.088251	3.195154	0.088299	0.457500
(S'_(n-2))^2	0.339471	0.664148	0.077013	2.735268	0.113027	0.000000
(S'_(n-3))^2	0.076123	0.722607	0.003873	0.122399	0.729932	0.000000
(S'_(n-4))^2	0.295348	0.396625	0.058294	2.006902	0.171249	0.000000
(S'_(n-5))^2	0.430914	0.706747	0.124091	4.788609	0.040094	0.542500
(S'_(n-6))^2	0.150766	0.994659	0.015190	0.488442	0.492292	0.000000
(S'_(n-7))^2	0.105400	0.951849	0.007424	0.235914	0.632202	0.000000
(S'_(n-8))^2	0.116915	0.940063	0.009135	0.291030	0.595236	0.000000
(S'_(n-9))^2	0.233557	0.751512	0.036454	1.211623	0.283469	0.000000
(S'_(n-10))^2	0.122172	0.802950	0.009975	0.318194	0.578670	0.000000

my5

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum(w_i, [S'_(i-n)]^2)
Standard error of regression = 0.002724
R squared = 0.489676 r = 0.699769

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.041917			
B1	0.000164	0.000089	1.849538	0.078506
B2	0.000822	0.000210	3.912073	0.000802
B3	0.000145	0.000057	2.549504	0.018664

RESULTS OF REGRESSION FOR VARIABLE P1:
DIVISION #2, BETWEEN 25.00 AND 55.00 (n = 40).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.004084
R squared = 0.538905 r = 0.734102

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.061938			
B1	-0.000460	0.000069	-6.664278	0.000000

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.356394	0.894438	0.058567	5.383409	0.025950	0.156881
S'_(n-1)	0.521251	0.918938	0.125280	13.803394	0.000668	0.229448
S'_(n-2)	0.593464	0.808409	0.162397	20.116324	0.000068	0.261236
S'_(n-3)	0.494207	0.947782	0.112618	11.957382	0.001385	0.217544
S'_(n-4)	0.306439	0.991690	0.043299	3.834561	0.057778	0.134891
S'_(n-5)	0.148763	0.914700	0.010204	0.837360	0.366078	0.000000
S'_(n-6)	0.033308	0.992397	0.000512	0.041094	0.840466	0.000000
S'_(n-7)	0.072906	0.882059	0.002451	0.197718	0.659159	0.000000
S'_(n-8)	0.020069	0.940881	0.000186	0.014909	0.903480	0.000000

S'_(n-9)	0.044706	0.993476	0.000922	0.074098	0.786974	0.000000
S'_(n-10)	0.120958	0.928089	0.006746	0.549382	0.463249	0.000000

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.003555
R squared = 0.659745 r = 0.812247

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.060209			
B1	-0.000415	0.000061	-6.772482	0.000000
B2	0.000752	0.000208	3.624951	0.000864

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.266374	0.816737	0.024143	2.749468	0.105977	0.000000
(S'_(n-1))^2	0.231664	0.473097	0.018261	2.041624	0.161666	0.000000
(S'_(n-2))^2	0.261335	0.980087	0.023238	2.638883	0.113002	0.000000
(S'_(n-3))^2	0.232680	0.740187	0.018421	2.060593	0.159784	0.000000
(S'_(n-4))^2	0.315565	0.728319	0.033883	3.981408	0.053616	0.403280
(S'_(n-5))^2	0.022665	0.958141	0.000175	0.018502	0.892562	0.000000
(S'_(n-6))^2	0.466932	0.721744	0.074185	10.037333	0.003123	0.596720
(S'_(n-7))^2	0.014482	0.933393	0.000071	0.007552	0.931232	0.000000
(S'_(n-8))^2	0.116863	0.969807	0.004647	0.498461	0.484722	0.000000
(S'_(n-9))^2	0.181662	0.967260	0.011229	1.228582	0.275033	0.000000
(S'_(n-10))^2	0.094162	0.950589	0.003017	0.322051	0.573900	0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum(w_i, [S'_(i-n)]^2)
Standard error of regression = 0.003506
R squared = 0.677990 r = 0.823402

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.058742			
B1	-0.000407	0.000061	-6.691086	0.000000
B2	0.000821	0.000210	3.905286	0.000397
B3	0.000090	0.000063	1.428229	0.161845

RESULTS OF REGRESSION FOR VARIABLE P1:
DIVISION #3, BETWEEN 55.00 AND 100.00 (n = 48).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.004099
R squared = 0.044827 r = 0.211725

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.034684			
B1	0.000067	0.000046	1.469295	0.148559

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.612887	0.948549	0.358792	27.072704	0.000005	0.259503
S'_(n-1)	0.593620	0.976969	0.336588	24.485642	0.000011	0.251345
S'_(n-2)	0.551922	0.830246	0.290962	19.712582	0.000058	0.233690
S'_(n-3)	0.323138	0.993387	0.099737	5.246654	0.026727	0.136820
S'_(n-4)	0.079643	0.780864	0.006059	0.287255	0.594624	0.000000
S'_(n-5)	0.077281	0.943909	0.005705	0.270370	0.605632	0.000000
S'_(n-6)	0.026390	0.990173	0.000665	0.031362	0.860230	0.000000
S'_(n-7)	0.126771	0.787443	0.015351	0.735005	0.395809	0.000000
S'_(n-8)	0.064074	0.865563	0.003921	0.185507	0.668739	0.000000
S'_(n-9)	0.280202	0.952602	0.074994	3.834122	0.056436	0.118641
S'_(n-10)	0.236804	0.932331	0.053562	2.673333	0.109019	0.000000

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.003486
R squared = 0.324054 r = 0.569258

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.035423			
B1	0.000054	0.000039	1.382243	0.173720
B2	0.000831	0.000193	4.311509	0.000087

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.071958	0.772449	0.003500	0.229017	0.634623	0.000000
(S'_(n-1))^2	0.013301	0.860152	0.000120	0.007786	0.930090	0.000000
(S'_(n-2))^2	0.161232	0.860626	0.017572	1.174337	0.284415	0.000000
(S'_(n-3))^2	0.054626	0.538239	0.002017	0.131687	0.718427	0.000000
(S'_(n-4))^2	0.007425	0.959949	0.000037	0.002426	0.960943	0.000000
(S'_(n-5))^2	0.276138	0.938718	0.051542	3.632051	0.063223	0.298232
(S'_(n-6))^2	0.274334	0.960845	0.050871	3.580891	0.065039	0.296284
(S'_(n-7))^2	0.002628	0.920865	0.000005	0.000304	0.986173	0.000000
(S'_(n-8))^2	0.227572	0.748845	0.035007	2.403171	0.128253	0.000000
(S'_(n-9))^2	0.375444	0.877564	0.095280	7.219871	0.010137	0.405484
(S'_(n-10))^2	0.011743	0.996445	0.000093	0.006069	0.938260	0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum(w_i, [S'_(i-n)]^2}
Standard error of regression = 0.003525
R squared = 0.324359 r = 0.569525

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.035531			
B1	0.000054	0.000039	1.359154	0.181024
B2	0.000829	0.000195	4.250473	0.000109
B3	-0.000009	0.000066	-0.140828	0.888649

OVERALL REGRESSION FOR P1:
REGRESSION EQUATION = 1/P1 = b0 + b1 (ph1) + b2 SUM(v S') + b3 SUM (w S'^2)
R squared = 0.626552, r = 0.791551, p = 0.000000.

RESULTS OF REGRESSION FOR VARIABLE P2:

DIVISION #1, BETWEEN 0.00 AND 27.00 (n = 30).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.002032
R squared = 0.337245 r = 0.580728

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.029483			
B1	-0.000184	0.000049	-3.774641	0.000766

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.049615	0.829535	0.001631	0.066629	0.798267	0.000000
S'_(n-1)	0.207971	0.960011	0.028665	1.220590	0.278993	0.000000
S'_(n-2)	0.345871	0.998749	0.079283	3.668818	0.066087	0.073638
S'_(n-3)	0.524298	0.975779	0.182183	10.235637	0.003506	0.111625
S'_(n-4)	0.537387	0.892202	0.191394	10.963209	0.002646	0.114412
S'_(n-5)	0.475406	0.995812	0.149790	7.884200	0.009151	0.101216

my5

S'_(n-6)	0.458159	0.968144	0.139119	7.173310	0.012440	0.097544
S'_(n-7)	0.595467	0.999389	0.235000	14.833313	0.000655	0.126778
S'_(n-8)	0.629902	0.999277	0.262965	17.759523	0.000251	0.134109
S'_(n-9)	0.617124	0.959713	0.252405	16.607633	0.000363	0.131389
S'_(n-10)	0.513323	0.960967	0.174636	9.659906	0.004402	0.109289

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.001608
R squared = 0.599644 r = 0.774367

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.029099			
B1	-0.000165	0.000039	-4.236645	0.000236
B2	-0.000448	0.000106	-4.206686	0.000256

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.401906	0.733727	0.064669	5.008807	0.034002	0.540203
(S'_(n-1))^2	0.196795	0.995662	0.015505	1.047509	0.315511	0.000000
(S'_(n-2))^2	0.147617	0.846965	0.008724	0.579178	0.453482	0.000000
(S'_(n-3))^2	0.175859	0.791065	0.012382	0.829748	0.370714	0.000000
(S'_(n-4))^2	0.314188	0.816418	0.039521	2.847669	0.103469	0.000000
(S'_(n-5))^2	0.342085	0.587261	0.046850	3.445802	0.074780	0.459797
(S'_(n-6))^2	0.267336	0.954983	0.028613	2.001213	0.169038	0.000000
(S'_(n-7))^2	0.115843	0.916902	0.005373	0.353656	0.557191	0.000000
(S'_(n-8))^2	0.196299	0.914166	0.015427	1.042015	0.316758	0.000000
(S'_(n-9))^2	0.222103	0.792100	0.019749	1.349120	0.255985	0.000000
(S'_(n-10))^2	0.064764	0.468689	0.001679	0.109514	0.743350	0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum(w_i, [S'_(i-n)]^2)

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Standard error of regression = 0.001421
R squared = 0.698995 r = 0.836059

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.029508			
B1	-0.000132	0.000036	-3.644233	0.001174
B2	-0.000682	0.000124	-5.524253	0.000008
B3	-0.000082	0.000028	-2.929436	0.006980

RESULTS OF REGRESSION FOR VARIABLE P2:
DIVISION #2, BETWEEN 27.00 AND 70.00 (n = 49).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.001857
R squared = 0.216173 r = 0.464944

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.023266			
B1	0.000079	0.000022	3.600305	0.000763

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.489961	0.853291	0.188167	14.531258	0.000408	0.255065
S'_(n-1)	0.481405	0.980771	0.181652	13.876378	0.000532	0.250610
S'_(n-2)	0.332896	0.780033	0.086864	5.733043	0.020780	0.173300
S'_(n-3)	0.295344	0.881996	0.068372	4.395945	0.041552	0.153751
S'_(n-4)	0.150896	0.995695	0.017847	1.071800	0.305951	0.000000
S'_(n-5)	0.069807	0.915561	0.003820	0.225254	0.637311	0.000000
S'_(n-6)	0.022647	0.875798	0.000402	0.023604	0.878569	0.000000
S'_(n-7)	0.132449	0.961869	0.013751	0.821381	0.369500	0.000000
S'_(n-8)	0.321322	0.757957	0.080928	5.296213	0.025952	0.167274
S'_(n-9)	0.238111	0.865040	0.044441	2.764823	0.103157	0.000000
S'_(n-10)	0.060679	0.998958	0.002886	0.169996	0.682030	0.000000

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.001739
R squared = 0.327455 r = 0.572236

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.023164			
B1	0.000084	0.000021	4.060766	0.000188
B2	0.000281	0.000102	2.758863	0.008297

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.018745	0.990666	0.000236	0.015818	0.900475	0.000000
(S'_(n-1))^2	0.175834	0.589923	0.020793	1.435676	0.237113	0.000000
(S'_(n-2))^2	0.043116	0.678070	0.001250	0.083809	0.773530	0.000000
(S'_(n-3))^2	0.103245	0.993568	0.007169	0.484849	0.489815	0.000000

my5

(S'_(n-4))^2	0.222731	0.847638	0.033364	2.348929	0.132370	0.492343

(S'_(n-5))^2	0.123714	0.992868	0.010293	0.699431	0.407394	0.000000
(S'_(n-6))^2	0.154865	0.796925	0.016130	1.105757	0.298620	0.000000
(S'_(n-7))^2	0.144529	0.758354	0.014049	0.960043	0.332415	0.000000
(S'_(n-8))^2	0.012749	0.975088	0.000109	0.007315	0.932221	0.000000
(S'_(n-9))^2	0.229658	0.967447	0.035472	2.505588	0.120447	0.507657
(S'_(n-10))^2	0.156623	0.980172	0.016498	1.131638	0.293101	0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum(w_i, [S'_(i-n)]^2)
Standard error of regression = 0.001685
R squared = 0.382381 r = 0.618369

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.023991			
B1	0.000079	0.000020	3.921090	0.000298
B2	0.000345	0.000104	3.324026	0.001771
B3	-0.000057	0.000028	-2.000482	0.051504

RESULTS OF REGRESSION FOR VARIABLE P2:
DIVISION #3, BETWEEN 70.00 AND 100.00 (n = 34).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.001902
R squared = 0.001249 r = 0.035339

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.029340			
B1	-0.000007	0.000036	-0.200033	0.842720

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.210279	0.952500	0.044162	1.434150	0.240165	0.000000
S'_(n-1)	0.101827	0.997381	0.010356	0.324796	0.572847	0.000000
S'_(n-2)	0.029551	0.926889	0.000872	0.027095	0.870322	0.000000
S'_(n-3)	0.149817	0.987979	0.022417	0.711774	0.405319	0.000000
S'_(n-4)	0.348106	0.836041	0.121027	4.274494	0.047123	0.142772
S'_(n-5)	0.342541	0.911525	0.117188	4.120894	0.051013	0.140489
S'_(n-6)	0.383307	0.999738	0.146740	5.339081	0.027673	0.157209
S'_(n-7)	0.325923	0.911322	0.106093	3.684384	0.064169	0.133674
S'_(n-8)	0.346054	0.862955	0.119604	4.217408	0.048529	0.141930
S'_(n-9)	0.369900	0.989143	0.136655	4.913962	0.034109	0.151710
S'_(n-10)	0.322373	0.924286	0.103794	3.595286	0.067298	0.132217

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.001753
R squared = 0.177647 r = 0.421482

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.029635			
B1	-0.000011	0.000033	-0.333895	0.740707

B2	-0.000347	0.000135	-2.578685	0.014889

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.065890	0.990188	0.003570	0.130813	0.720126	0.000000
(S'_(n-1))^2	0.063245	0.974289	0.003943	0.144541	0.706486	0.000000
(S'_(n-2))^2	0.369609	0.964568	0.112343	4.746800	0.037341	1.000000
(S'_(n-3))^2	0.207898	0.714692	0.035543	1.355218	0.253543	0.000000
(S'_(n-4))^2	0.099870	0.834312	0.008202	0.302236	0.586554	0.000000
(S'_(n-5))^2	0.044419	0.911741	0.001623	0.059309	0.809249	0.000000
(S'_(n-6))^2	0.072111	0.733125	0.004276	0.156814	0.694909	0.000000
(S'_(n-7))^2	0.063781	0.936422	0.003345	0.122539	0.728743	0.000000
(S'_(n-8))^2	0.059848	0.624267	0.002945	0.107839	0.744899	0.000000
(S'_(n-9))^2	0.216544	0.585728	0.038561	1.475951	0.233885	0.000000
(S'_(n-10))^2	0.247865	0.996320	0.050523	1.963761	0.171373	0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum(w_i, (S'_(i-n))^2)
Standard error of regression = 0.001656
R squared = 0.289989 r = 0.538507

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.029275			
B1	0.000001	0.000032	0.023016	0.981790
B2	-0.000368	0.000127	-2.884610	0.007189
B3	-0.000049	0.000023	-2.178715	0.037341

OVERALL REGRESSION FOR P2:
REGRESSION EQUATION = L/P2 = b0 + b1 (phi) + b2 SUM(v S') + b3 SUM (w S'^2)
R squared = 0.544107, r = 0.737636, p = 0.000000.

Results of detrending for pp :
Division #1, between 0.00 and 30.00 (n = 37).
Detrending equation: PP = b0 + b1 (PHI)
Standard error of regression = 1.837893
R squared = 0.158851 r = 0.398561

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.464954	0.669938	0.694026	0.492120
B1	-0.089522	0.034334	-2.607413	0.013194

Results of detrending for pp :
Division #2, between 30.00 and 70.00 (n = 47).
Detrending equation: PP = b0 + b1 (PHI)
Standard error of regression = 2.150756
R squared = 0.216680 r = 0.465489

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	-5.139140	1.515725	-3.390549	0.001461
B1	0.104239	0.029545	3.528140	0.000977

Results of detrending for pp :

Division #3, between 70.00 and 100.00 (n = 38).
Detrending equation: PP = b0 + b1 (PHI)
Standard error of regression = 1.807434
R squared = 0.028806 r = 0.169723

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	3.795650	2.736125	1.387236	0.173899
B1	-0.032918	0.031856	-1.033328	0.308342

Overall detrending for pp:
R squared = 0.272063, r = 0.521597, p = 0.000000.

Results of detrending for int :
Division #1, between 0.00 and 30.00 (n = 35).
Detrending equation: INT = b0 + b1 (PHI)
Standard error of regression = 0.039922
R squared = 0.288404 r = 0.537033

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.031611	0.014552	2.172243	0.036502
B1	-0.002849	0.000746	-3.819753	0.000508

Results of detrending for int :
Division #2, between 30.00 and 70.00 (n = 44).
Detrending equation: INT = b0 + b1 (PHI)
Standard error of regression = 0.032680
R squared = 0.355639 r = 0.596355

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	-0.121300	0.023031	-5.266788	0.000004
B1	0.002237	0.000449	4.983637	0.000010

Results of detrending for int :
Division #3, between 70.00 and 100.00 (n = 34).
Detrending equation: INT = b0 + b1 (PHI)
Standard error of regression = 0.040632
R squared = 0.001522 r = 0.039018

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.014979	0.061510	0.243524	0.808982
B1	0.000168	0.000716	0.234284	0.816092

Overall detrending for int:
R squared = 0.374857, r = 0.612255, p = 0.000000.

Results of detrending for pl :
Division #1, between 0.00 and 25.00 (n = 25).
Detrending equation: Pl = b0 + b1 (PHI)
Standard error of regression = 1.678661
R squared = 0.053081 r = 0.230393

	COEF	STD ERROR	T-VALUE	P-LEVEL

my5

B0	-1.056880	0.748467	-1.412060	0.170259
B1	-0.060960	0.051495	-1.183814	0.247621

Results of detrending for p1 :
Division #2, between 25.00 and 55.00 (n = 40).
Detrending equation: P1 = b0 + b1 (PHI)
Standard error of regression = 2.782063
R squared = 0.442456 r = 0.665174

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	-10.830731	1.845146	-5.869851	0.000001
B1	0.255852	0.044317	5.773245	0.000001

Results of detrending for p1 :
Division #3, between 55.00 and 100.00 (n = 48).
Detrending equation: P1 = b0 + b1 (PHI)
Standard error of regression = 2.736940
R squared = 0.053976 r = 0.232328

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	5.333190	2.388309	2.233040	0.030052
B1	-0.050145	0.029689	-1.689026	0.097442

Overall detrending for p1:
R squared = 0.384154, r = 0.619801, p = 0.000000.

Results of detrending for p2 :
Division #1, between 0.00 and 27.00 (n = 30).
Detrending equation: P2 = b0 + b1 (PHI)
Standard error of regression = 2.861560
R squared = 0.326195 r = 0.571134

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	-2.708303	1.136409	-2.383212	0.023695
B1	0.254821	0.066866	3.810936	0.000640

Results of detrending for p2 :
Division #2, between 27.00 and 70.00 (n = 49).
Detrending equation: P2 = b0 + b1 (PHI)
Standard error of regression = 2.750173
R squared = 0.168073 r = 0.409967

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	5.339208	1.557884	3.427219	0.001214
B1	-0.101390	0.031587	-3.209901	0.002299

Results of detrending for p2 :
Division #3, between 70.00 and 100.00 (n = 34).
Detrending equation: P2 = b0 + b1 (PHI)
Standard error of regression = 2.353651
R squared = 0.000842 r = 0.029022

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	-2.282514	3.562996	-0.640616	0.525829
B1	0.007227	0.041484	0.174202	0.862682

Overall detrending for p2:
R squared = 0.301618, r = 0.549197, p = 0.000000.

Results of linear model for pp :
Linear model equation: PP = b0 + b1 (I_n-1) + b2 (D_n)
Standard error of linear model = 1.451553
R squared = 0.435220 r = 0.659712

	COEF	STD ERROR	T-VALUE	P
B0	-17.028185	6.693474	-2.543998	0.012240
B1	33.137308	4.009551	8.264593	0.000000
B2	0.578172	0.071903	8.040960	0.000000

Overall results of linear modelling of pp
after retrending: R-squared = 0.592534, r = 0.769762.

Results of linear model for int :
Linear model equation: INT = b0 + b1 (S_n) + ... + b(1+m) (S_n-m)

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Standard error of linear model = 0.036958
R squared = 0.121787  r = 0.348981

              COEF        STD ERROR     T-VALUE          P
B0         0.773883         0.150955    5.126583   0.000001
B1        -0.002213         0.002207   -1.002701   0.318129
B2         0.003569         0.003002    1.189054   0.236889
B3         0.001093         0.003013    0.362714   0.717490
B4        -0.000297         0.003008   -0.098678   0.921567
B5        -0.001308         0.002944   -0.444372   0.657616
B6         0.003533         0.002996    1.179327   0.240723
B7         0.002059         0.002976    0.691810   0.490463
B8        -0.002392         0.003079   -0.776787   0.438894
B9        -0.001770         0.003060   -0.578516   0.564057
B10        0.000773         0.003050    0.253291   0.800499
B11       -0.001832         0.002267   -0.808181   0.420670

Overall results of linear modelling of int
   after retrending: R-squared = 0.445034, r = 0.667109.


Results of linear model for p1 :
Linear model equation: P1 = b0 + b1 (S_n) + ... + b(1+m) (S_n-m)
Standard error of linear model = 1.942385
R squared = 0.461696  r = 0.679482

              COEF        STD ERROR     T-VALUE          P
B0        57.108903         7.933577    7.198381   0.000000
B1        -0.014466         0.116004   -0.124701   0.900980
B2        -0.374343         0.157758   -2.372889   0.019323
B3        -0.147166         0.158336   -0.929451   0.354619
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B4        -0.222103         0.158075   -1.405047   0.162726
B5         0.166554         0.154725    1.076450   0.283999
B6        -0.089603         0.157452   -0.569085   0.570418
B7         0.440501         0.156394    2.816610   0.005721
B8        -0.159128         0.161808   -0.983441   0.327473
B9         0.078692         0.160812    0.489342   0.625540
B10        0.211083         0.160320    1.316638   0.190601
B11       -0.202520         0.119134   -1.699928   0.091871

Overall results of linear modelling of p1
   after retrending: R-squared = 0.669520, r = 0.818242.


Results of linear model for p2 :
Linear model equation: P2 = b0 + b1 (S_n) + ... + b(1+m) (S_n-m)
Standard error of linear model = 2.093546
R squared = 0.368613  r = 0.607135

              COEF        STD ERROR     T-VALUE          P
B0        25.356509         8.550989    2.965331   0.003683
B1        -0.299213         0.125032   -2.393088   0.018341
B2        -0.214233         0.170035   -1.259932   0.210267
B3         0.100474         0.170658    0.588744   0.557198
B4        -0.102098         0.170377   -0.599247   0.550197
B5         0.280346         0.166766    1.681072   0.095487
B6        -0.085178         0.169705   -0.501918   0.616693
B7         0.207963         0.168565    1.233727   0.219842
B8        -0.048024         0.174400   -0.275367   0.783533
B9         0.222774         0.173327    1.285283   0.201298
B10        0.075644         0.172797    0.437764   0.662386
B11       -0.030122         0.128406   -0.234584   0.814953

Overall results of linear modelling of p2
   after retrending: R-squared = 0.577245, r = 0.759766.


Results of linear model for diast :
Linear model equation: D_n+1 = b0 + b1(D) + b2(D') + b3(D'') + b4(PP) + b5(INT) + b6(P1) + b7(P2)
Standard error of linear model = 0.895568
R squared = 0.821152  r = 0.906175

              COEF        STD ERROR     T-VALUE          P
B0        28.215063         4.790158    5.890215   0.000000
B1         0.681403         0.055072   12.373014   0.000000
B2        -0.019699         0.014649   -1.344767   0.181370
B3         0.000437         0.000794    0.550418   0.583110
B4         0.203515         0.063248    3.217728   0.001683
B5       -21.331703         3.260020   -6.543428   0.000000
B6        -0.011209         0.043869   -0.255505   0.798793
B7        -0.000125         0.037917   -0.003304   0.997369

Results of linear model for ddiast :
Linear model equation: D'_n+1 = b0 + b1(D) + b2(D') + b3(D'') + b4(PP) + b5(INT) + b6(P1) + b7(P2)
Standard error of linear model = 16.784548
R squared = 0.084918  r = 0.291407
```

my5

	COEF	STD ERROR	T-VALUE	P
B0	17.025800	89.776095	0.189647	0.849923
B1	-0.925397	1.032143	-0.896579	0.371833
B2	0.144112	0.274547	0.524909	0.600666
B3	0.004455	0.014885	0.299297	0.765259
B4	-0.470767	1.185383	-0.397144	0.692004
B5	59.357816	61.098575	0.971509	0.333352
B6	-0.446730	0.822181	-0.543348	0.587951
B7	-0.188170	0.710624	-0.264795	0.791645

Results of linear model for dddiast :
Linear model equation: D''_n+1 = b0 + b1(D) + b2(D') + b3(D'') + b4(PP) + b5(INT) + b6(P1) + b7(P2)
Standard error of linear model = 298.026446
R squared = 0.097539 r = 0.312313

	COEF	STD ERROR	T-VALUE	P
B0	1461.149062	1594.064444	0.916619	0.361278
B1	-18.437079	18.326724	-1.006022	0.316536
B2	-1.240067	4.874859	-0.254380	0.799660
B3	0.310331	0.264297	1.174175	0.242772
B4	2.664162	21.047660	0.126578	0.899498
B5	243.338476	1084.866361	0.224303	0.822923
B6	-17.124195	14.598641	-1.172999	0.243241
B7	-10.358963	12.617834	-0.820978	0.413372

Results of windkessel model for diast :
Overall results for diast:
R-squared = 0.962446, r = 0.981043.

NONLINEAR FORECAST RESULTS (In-sample, n = 103):

STEP	PP	INT	P1	P2	DIAST
0	0.760679	0.675837	0.761873	0.698830	1.000000
1	0.562711	0.688793	0.774450	0.682403	0.500698
2	0.411308	0.669326	0.746021	0.655377	0.324430
3	0.430167	0.635462	0.642646	0.589656	0.274900
4	0.280233	0.556711	0.560713	0.534505	0.229669
5	0.169931	0.473582	0.509932	0.511812	0.192735
6	0.243737	0.442357	0.525220	0.497510	0.176792
7	0.197491	0.490563	0.536101	0.478988	0.085470
8	0.108249	0.519552	0.497787	0.465246	0.026104
9	0.041181	0.462455	0.500453	0.402474	0.012825
10	0.091704	0.466757	0.459741	0.333593	-0.008164

NONLINEAR FORECAST RESULTS (Out-of-sample, n = 126):

STEP	PP	INT	P1	P2	DIAST
0	0.572296	0.424687	0.577803	0.342645	1.000000
1	0.048940	0.406294	0.559464	0.252902	0.150646
2	-0.014339	0.460126	0.564060	0.263866	0.010467
3	0.181214	0.439154	0.466486	0.192802	0.044252
4	0.253477	0.229889	0.394815	0.329049	0.042498
5	0.142597	0.145236	0.366105	0.250245	0.008012
6	0.144066	0.207338	0.304409	0.231871	-0.187685
7	0.136530	0.377973	0.288445	0.265620	-0.224730

8	0.129525	0.452291	0.327338	0.324839	-0.219301
9	0.178203	0.411740	0.312888	0.400667	-0.105594
10	0.089812	0.328568	0.241438	0.301090	-0.072345

LINEAR FORECAST RESULTS (In-sample, n = 103):

STEP	PP	INT	P1	P2	DIAST
0	-0.055845	0.316007	0.268606	0.040005	1.000000
1	-0.079682	0.284046	0.287881	0.013826	0.853513
2	-0.078996	0.254722	0.315276	0.003672	0.664416
3	-0.085288	0.246488	0.335103	0.009959	0.446671
4	-0.098453	0.232798	0.326726	0.032713	0.283148
5	-0.131622	0.192933	0.302936	0.048470	0.213594
6	-0.165144	0.141556	0.279045	0.034167	0.106059
7	-0.196354	0.099383	0.271134	0.049068	0.003757
8	-0.187884	0.092722	0.289616	0.090244	0.000850
9	-0.173024	0.099009	0.265697	0.184714	-0.008047
10	-0.173650	0.088038	0.233461	0.228046	-0.020638

LINEAR FORECAST RESULTS (Out-of-sample, n = 126):

STEP	PP	INT	P1	P2	DIAST
0	0.412693	0.137985	0.294345	-0.275908	1.000000
1	0.415616	0.130856	0.311050	-0.285447	0.797865
2	0.405037	0.104448	0.267243	-0.266757	0.564787

my5

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3     0.387987  0.044921  0.239750 -0.283295  0.403407
4     0.389363  0.003605  0.192261 -0.265610  0.292749
5     0.397299 -0.001651  0.176859 -0.248869  0.187820
6     0.399386 -0.012231  0.187975 -0.243723 -0.192747
7     0.400339 -0.014708  0.192118 -0.268216 -0.396714
8     0.381412 -0.052080  0.175513 -0.290138 -0.373811
9     0.370653 -0.087266  0.179960 -0.312035 -0.370445
10    0.358110 -0.105095  0.192122 -0.322960 -0.384357


Error analysis for long forecast into file nl16.00:
Errors in p1: 0
Errors in p2: 0
Errors in p5: 0
Post inflection adjustment in p5: 4
```


In-sample data for beats 180 through 270 (n = 86):

BEATNO	TIME	INT	DIAS	DIAS'	DIAS''	SYST	PP	P1	P2	P3	P4	P5	P6	RESP
AVG	4692.156	0.814	47.39	-34.55	-89.43	90.30	42.91	23.69	38.38	449.82	100026.16	34.77	17.27	48.64
STDDEV	21.483	0.034	3.79	23.49	407.65	6.14	2.82	1.69	3.68	45.42	7823.75	4.43	13.21	27.85

Out-of-sample data for beats 271 through 321 (n = 51):

BEATNO	TIME	INT	DIAS	DIAS'	DIAS''	SYST	PP	P1	P2	P3	P4	P5	P6	RESP
AVG	4749.865	0.801	54.38	-32.53	-64.63	97.07	42.69	23.89	40.69	458.84	99838.82	42.27	20.92	49.63
STDDEV	11.932	0.030	2.07	11.75	213.68	4.29	2.84	0.97	3.51	39.71	7274.93	2.36	13.60	28.65

Results of regression for p3 :
Regression equation: P3 = b0 + b1 (P1) + b2 (P1)^2
Standard error of regression = 22.255575
R squared = 0.765535 r = 0.874949

	COEF	STD ERROR	T-VALUE	P
B0	-847.678770	463.267377	-1.829783	0.070873
B1	84.978861	38.358427	2.215390	0.029472
B2	-1.269050	0.790865	-1.604637	0.112372

Results of regression for p4 :
Regression equation: P4 = b0 + b1 (PP)
Standard error of regression = 4383.740082
R squared = 0.689744 r = 0.830508

	COEF	STD ERROR	T-VALUE	P
B0	1260.226495	7242.869928	0.173995	0.862288
B1	2301.712133	168.433156	13.665434	0.000000

Results of regression for p5 :
Regression equation: P5 = b0 + b1 (P2) + b2 (P2)^2 + b3 (P2)^3
Standard error of regression = 3.003502
R squared = 0.556388 r = 0.745914

	COEF	STD ERROR	T-VALUE	P
B0	80.902142	254.648274	0.317702	0.751519
B1	-5.823619	19.305596	-0.301654	0.763679
B2	0.183975	0.484747	0.379527	0.705277
B3	-0.001653	0.004029	-0.410289	0.682664

Results of regression for p6 :
Regression equation: P6 = b0 + b1 (P1)
Standard error of regression = 13.283025
R squared = 0.000069 r = 0.008288

	COEF	STD ERROR	T-VALUE	P
B0	18.805522	20.309895	0.925929	0.357135
B1	-0.064947	0.855007	-0.075961	0.939631

my5

Results of regression for pp :
Division #1, between 0.00 and 25.00 (n = 20).
Regression equation: PP = b0 + b1 (PHI) + b2 (I_n-1) + b3 (D)
Standard error of regression = 2.098304
R squared = 0.392679 r = 0.626641

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	22.261727	34.706990	0.641419	0.530332
B1	-0.011352	0.067775	-0.167492	0.869082
B2	-4.458572	35.278377	-0.126383	0.901004
B3	0.484113	0.177868	2.721751	0.015084

Results of regression for pp :
Division #2, between 25.00 and 60.00 (n = 36).
Regression equation: PP = b0 + b1 (PHI) + b2 (I_n-1) + b3 (D)
Standard error of regression = 1.179553
R squared = 0.835460 r = 0.914035

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	-10.174149	8.846397	-1.150090	0.258630
B1	0.110602	0.020312	5.445098	0.000005
B2	27.626400	8.960259	3.083214	0.004195
B3	0.575766	0.061475	9.365830	0.000000

Results of regression for pp :
Division #3, between 60.00 and 100.00 (n = 29).
Regression equation: PP = b0 + b1 (PHI) + b2 (I_n-1) + b3 (D)
Standard error of regression = 1.281989
R squared = 0.746758 r = 0.864152

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	25.239968	11.405433	2.212978	0.036255
B1	-0.153101	0.034853	-4.392817	0.000180
B2	15.534483	13.710866	1.133005	0.267961
B3	0.371020	0.075516	4.913153	0.000047

Overall regression for pp:
R squared = 0.767569, r = 0.876110, p = 0.000000.

RESULTS OF REGRESSION FOR VARIABLE INT:
DIVISION #1, BETWEEN 0.00 AND 40.00 (n = 31).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.018581
R squared = 0.613447 r = 0.783228

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.842946			
B1	-0.001965	0.000290	-6.783954	0.000000

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.470561	0.999994	0.085594	7.963273	0.008683	0.233188
S'_(n-1)	0.540384	0.841274	0.112879	11.548850	0.002051	0.267789
S'_(n-2)	0.343183	0.772758	0.045526	3.737914	0.063360	0.170065
S'_(n-3)	0.168920	0.924308	0.011030	0.822416	0.372214	0.000000
S'_(n-4)	0.231557	0.893897	0.020727	1.586385	0.218242	0.000000
S'_(n-5)	0.271440	0.802939	0.028481	2.227131	0.146788	0.000000
S'_(n-6)	0.343455	0.999931	0.045598	3.744629	0.063137	0.170200
S'_(n-7)	0.320364	0.889607	0.039673	3.202395	0.084353	0.158757
S'_(n-8)	0.022150	0.907763	0.000190	0.013744	0.907512	0.000000
S'_(n-9)	0.173843	0.971805	0.011682	0.872566	0.358232	0.000000
S'_(n-10)	0.002699	0.898731	0.000003	0.000204	0.988708	0.000000

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.016512
R squared = 0.705269 r = 0.839803

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.842595			
B1	-0.002180	0.000267	-8.148709	0.000000
B2	-0.002289	0.000775	-2.953525	0.006300

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT

my5

(S'_(n-0))^2	0.025052	0.772650	0.000185	0.016956	0.897362	0.000000
(S'_(n-1))^2	0.191956	0.787969	0.010860	1.032928	0.318493	0.000000
(S'_(n-2))^2	0.162457	0.685581	0.007779	0.731906	0.399795	0.000000
(S'_(n-3))^2	0.219087	0.365952	0.014147	1.361320	0.253511	0.000000
(S'_(n-4))^2	0.287575	0.542734	0.024374	2.434193	0.130361	0.000000
(S'_(n-5))^2	0.122965	0.915553	0.004456	0.414521	0.525115	0.000000
(S'_(n-6))^2	0.094947	0.754307	0.002657	0.245615	0.624190	0.000000
(S'_(n-7))^2	0.240372	0.762842	0.017029	1.655684	0.209111	0.000000
(S'_(n-8))^2	0.459500	0.904607	0.062229	7.226598	0.012153	1.000000
(S'_(n-9))^2	0.309849	0.714129	0.028296	2.867475	0.101895	0.000000
(S'_(n-10))^2	0.230915	0.784346	0.015715	1.520771	0.228132	0.000000

Final results of regression (step #3).

Variables in: resp, sum(v_i S'_(i-n)], sum(w_i, (S'_(i-n)]^2)
Standard error of regression = 0.014934
R squared = 0.767499 r = 0.876070

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.837673			
B1	-0.002264	0.000244	-9.281685	0.000000
B2	-0.002895	0.000736	-3.931624	0.000530
B3	0.000279	0.000104	2.688233	0.012153

RESULTS OF REGRESSION FOR VARIABLE INT:
DIVISION #2, BETWEEN 40.00 AND 100.00 (n = 45).

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Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.017985
R squared = 0.719654 r = 0.848324

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.710183			
B1	0.001637	0.000156	10.506288	0.000000

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.053958	0.985678	0.000816	0.122637	0.727942	0.000000
S'_(n-1)	0.130988	0.833450	0.004810	0.733207	0.396705	0.000000
S'_(n-2)	0.016270	0.774175	0.000074	0.011120	0.916519	0.000000
S'_(n-3)	0.031804	0.993337	0.000284	0.042525	0.837618	0.000000
S'_(n-4)	0.184575	0.901593	0.009551	1.481311	0.230364	0.000000
S'_(n-5)	0.265650	0.822012	0.019784	3.188978	0.081358	0.230153
S'_(n-6)	0.265052	0.966151	0.019695	3.173549	0.082072	0.229635
S'_(n-7)	0.151344	0.942541	0.006421	0.984561	0.326758	0.000000
S'_(n-8)	0.170206	0.875290	0.008122	1.253037	0.269334	0.000000
S'_(n-9)	0.323737	1.000000	0.029382	4.917189	0.032056	0.280479
S'_(n-10)	0.299791	0.880014	0.025196	4.147487	0.048033	0.259733

Partial results of regression (step #2).

Variables in: resp, sum(v_i S'_(i-n)].
Standard error of regression = 0.018154
R squared = 0.721009 r = 0.849122

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.711405			
B1	0.001616	0.000164	9.879312	0.000000
B2	-0.000287	0.000635	-0.451505	0.653949

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.173075	0.686473	0.008357	1.266080	0.267047	0.000000
(S'_(n-1))^2	0.193543	0.801008	0.010451	1.595589	0.213666	0.503603
(S'_(n-2))^2	0.085374	0.899965	0.002033	0.301032	0.586212	0.000000
(S'_(n-3))^2	0.033034	0.955439	0.000304	0.044791	0.833437	0.000000
(S'_(n-4))^2	0.083808	0.926816	0.001960	0.290012	0.593125	0.000000
(S'_(n-5))^2	0.018185	0.770174	0.000092	0.013563	0.907856	0.000000
(S'_(n-6))^2	0.190774	0.538926	0.010154	1.548540	0.220418	0.496397
(S'_(n-7))^2	0.059317	0.769405	0.000982	0.144770	0.705549	0.000000
(S'_(n-8))^2	0.093725	0.962586	0.002451	0.363352	0.549970	0.000000
(S'_(n-9))^2	0.038872	0.976742	0.000422	0.062048	0.804532	0.000000
(S'_(n-10))^2	0.059357	0.898113	0.000983	0.144962	0.705363	0.000000

Final results of regression (step #3).

Variables in: resp, sum(v_i S'_(i-n)], sum(w_i, (S'_(i-n)]^2)
Standard error of regression = 0.017700
R squared = 0.741088 r = 0.860865

my5

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.705731			
B1	0.001602	0.000160	10.027709	0.000000
B2	-0.001309	0.000844	-1.551577	0.128449
B3	0.000195	0.000109	1.783161	0.081964

OVERALL REGRESSION FOR INT:
REGRESSION EQUATION = I_n = b0 + b1 (phi) + b2 SUM(v S') + b3 SUM (w S'^2)
R squared = 0.775687, r = 0.880731, p = 0.000000.

RESULTS OF REGRESSION FOR VARIABLE P1:
DIVISION #1, BETWEEN 0.00 AND 20.00 (n = 14).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.002556
R squared = 0.143181 r = 0.378393

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.042445			
B1	-0.000179	0.000126	-1.416083	0.182181

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.794292	0.994417	0.540567	18.802219	0.001182	0.380579
S'_(n-1)	0.718540	0.998543	0.442375	11.741323	0.005657	0.344283
S'_(n-2)	0.574229	0.999861	0.282527	5.411530	0.040132	0.275138
S'_(n-3)	0.426099	0.901364	0.155564	2.440207	0.146553	0.000000
S'_(n-4)	0.425554	0.759699	0.155167	2.432593	0.147126	0.000000
S'_(n-5)	0.426584	0.866734	0.155919	2.447000	0.146044	0.000000
S'_(n-6)	0.396353	0.993172	0.134603	2.050120	0.179990	0.000000
S'_(n-7)	0.191603	0.999452	0.031455	0.419220	0.530607	0.000000
S'_(n-8)	0.195223	0.999922	0.032655	0.435841	0.522720	0.000000
S'_(n-9)	0.325469	0.999217	0.090763	1.303289	0.277856	0.000000
S'_(n-10)	0.034927	0.914583	0.001045	0.013435	0.909813	0.000000

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.001812
R squared = 0.605120 r = 0.777895

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.042760			
B1	-0.000194	0.000090	-2.168651	0.052901
B2	0.000432	0.000120	3.587206	0.004264

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.260991	0.519088	0.026898	0.730953	0.412589	0.000000
(S'_(n-1))^2	0.177777	0.811682	0.012480	0.326361	0.580422	0.000000
(S'_(n-2))^2	0.340526	0.326925	0.045789	1.311677	0.278761	0.000000

(S'_(n-3))^2	0.404814	0.393394	0.064711	1.959924	0.191773	0.000000
(S'_(n-4))^2	0.094490	0.832060	0.003526	0.090087	0.770213	0.000000
(S'_(n-5))^2	0.162866	0.805331	0.010474	0.272480	0.613039	0.000000
(S'_(n-6))^2	0.324273	0.689694	0.041523	1.175091	0.303801	0.000000
(S'_(n-7))^2	0.595593	0.912618	0.140076	5.497408	0.041013	0.263100
(S'_(n-8))^2	0.522713	0.862851	0.107893	3.759493	0.081223	0.230906
(S'_(n-9))^2	0.596922	0.739414	0.140702	5.535584	0.040448	0.263688
(S'_(n-10))^2	0.548521	0.932532	0.118809	4.303593	0.064792	0.242306

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum[w_i, [S'_(i-n)]^2)
Standard error of regression = 0.001488
R squared = 0.758020 r = 0.870643

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.043381			
B1	-0.000173	0.000074	-2.330925	0.041984
B2	0.000517	0.000104	4.947443	0.000581
B3	-0.000036	0.000014	-2.513700	0.030717

RESULTS OF REGRESSION FOR VARIABLE P1:
DIVISION #2, BETWEEN 20.00 AND 54.00 (n = 29).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.002389
R squared = 0.495739 r = 0.704087

	COEF	STD ERROR	T-VALUE	P-LEVEL

my5

```
B0          0.033034
B1          0.000226        0.000044    5.152055    0.000020

Variables not in model:

            PARTIAL CORR     TOLERANCE          R-SQ       F-VALUE       P-LEVEL    NEW WEIGHT
S'_(n-0 )       0.635353      0.734561      0.203557     17.600273      0.000281      0.307756
S'_(n-1 )       0.617608      0.986172      0.192345     16.033053      0.000462      0.299160
S'_(n-2 )       0.454280      0.920882      0.104065      6.760881      0.015163      0.220047
S'_(n-3 )       0.273678      0.907220      0.037769      2.105060      0.158772      0.000000
S'_(n-4 )       0.238009      0.978544      0.028566      1.561304      0.222606      0.000000
S'_(n-5 )       0.219240      0.866334      0.024238      1.312829      0.262320      0.000000
S'_(n-6 )       0.242155      0.831895      0.029569      1.619582      0.214413      0.000000
S'_(n-7 )       0.151275      0.999996      0.011540      0.608925      0.442240      0.000000
S'_(n-8 )       0.001734      0.880968      0.000002      0.000078      0.993012      0.000000
S'_(n-9 )       0.211256      0.859497      0.022505      1.214562      0.280528      0.000000
S'_(n-10)       0.357231      0.944189      0.064351      3.803323      0.062010      0.173038

Partial results of regression (step #2).

Variables in: resp, sum[v_1 S'_(i-n)].
Standard error of regression = 0.002091
R squared = 0.627740  r = 0.792301

                COEF        STD ERROR     T-VALUE     P-LEVEL
```



```
B0          0.034276
B1          0.000207        0.000039    5.319914    0.000014
B2          0.000301        0.000099    3.036359    0.005387

Variables not in model:

              PARTIAL CORR     TOLERANCE          R-SQ       F-VALUE       P-LEVEL    NEW WEIGHT
(S'_(n-0 ))^2       0.215672      0.949396      0.017315      1.219591      0.279957      0.000000
(S'_(n-1 ))^2       0.411879      0.697687      0.063152      5.107571      0.032785      0.304341
(S'_(n-2 ))^2       0.235840      0.831247      0.020705      1.472407      0.236307      0.000000
(S'_(n-3 ))^2       0.092540      0.675069      0.003188      0.215940      0.646173      0.000000
(S'_(n-4 ))^2       0.245179      0.384015      0.022378      1.598936      0.217716      0.000000
(S'_(n-5 ))^2       0.420926      0.512423      0.065956      5.383261      0.028784      0.311026
(S'_(n-6 ))^2       0.263666      0.901238      0.025879      1.867848      0.183888      0.000000
(S'_(n-7 ))^2       0.104812      0.873306      0.004089      0.277688      0.602866      0.000000
(S'_(n-8 ))^2       0.065126      0.801405      0.001579      0.106488      0.746895      0.000000
(S'_(n-9 ))^2       0.266430      0.938626      0.026425      1.910220      0.179164      0.000000
(S'_(n-10))^2       0.520541      0.748421      0.100868      9.291791      0.005376      0.384633

Final results of regression (step #3).

Variables in: resp, sum[v_1 S'_(i-n)], sum[w_1, (S'_(i-n))^2]
Standard error of regression = 0.001657
R squared = 0.775190  r = 0.880449

                COEF        STD ERROR     T-VALUE     P-LEVEL
B0          0.037109
B1          0.000181        0.000031    5.763666    0.000005
B2          0.000460        0.000088    5.240710    0.000020
B3         -0.000057        0.000014   -4.049341    0.000436

RESULTS OF REGRESSION FOR VARIABLE P1:
DIVISION #3, BETWEEN 54.00 AND 100.00 (n = 33).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.001681
R squared = 0.102664  r = 0.320412

                COEF        STD ERROR     T-VALUE     P-LEVEL
B0          0.046584
B1         -0.000042        0.000022   -1.883266    0.069076

Variables not in model:

            PARTIAL CORR     TOLERANCE          R-SQ       F-VALUE       P-LEVEL    NEW WEIGHT
S'_(n-0 )       0.266214      0.872465      0.063594      2.288272      0.140819      0.000000
S'_(n-1 )       0.363475      0.953199      0.118551      4.566757      0.040869      0.302495
S'_(n-2 )       0.201895      0.735104      0.036577      1.274806      0.267815      0.000000
S'_(n-3 )       0.047309      0.938376      0.002008      0.067294      0.797090      0.000000
S'_(n-4 )       0.019905      0.974320      0.000356      0.011891      0.913891      0.000000
S'_(n-5 )       0.017682      0.915568      0.000281      0.009382      0.923479      0.000000
S'_(n-6 )       0.101171      0.937427      0.009185      0.310245      0.581662      0.000000
S'_(n-7 )       0.066314      0.991178      0.003946      0.132510      0.718396      0.000000
S'_(n-8 )       0.261015      0.861860      0.061134      2.193283      0.149041      0.000000
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my5

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S'_(n-9 )      0.383053      0.980243      0.131666      5.158837      0.030467      0.318788
S'_(n-10)      0.455063      0.944243      0.185823      7.834955      0.008873      0.378717

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.001660
R squared = 0.152829  r = 0.390933

                COEF        STD ERROR     T-VALUE     P-LEVEL
B0          0.046438
B1         -0.000042         0.000022   -1.874059    0.070691
B2         -0.000086         0.000065   -1.332833    0.192621

Variables not in model:

                PARTIAL CORR     TOLERANCE         R-SQ       F-VALUE       P-LEVEL    NEW WEIGHT
(S'_(n-0 ))^2       0.284858      0.562016     0.068743      2.560992      0.120369      0.000000
(S'_(n-1 ))^2       0.118701      0.623689     0.011937      0.414451      0.524778      0.000000
(S'_(n-2 ))^2       0.271920      0.854995     0.062640      2.315487      0.138922      0.000000
(S'_(n-3 ))^2       0.341084      0.996981     0.098558      3.817980      0.060410      1.000000
(S'_(n-4 ))^2       0.210982      0.902153     0.037711      1.351032      0.254574      0.000000
(S'_(n-5 ))^2       0.034412      0.890252     0.001003      0.034381      0.854189      0.000000
(S'_(n-6 ))^2       0.090721      0.614839     0.006973      0.240661      0.627421      0.000000
(S'_(n-7 ))^2       0.057801      0.630200     0.002830      0.097212      0.757432      0.000000
(S'_(n-8 ))^2       0.225851      0.910592     0.043213      1.558769      0.221831      0.000000
(S'_(n-9 ))^2       0.137330      0.913031     0.015977      0.557441      0.461303      0.000000
(S'_(n-10))^2       0.028370      0.655826     0.000682      0.023360      0.879583      0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum[w_i, [S'_(i-n)]^2)
Standard error of regression = 0.001587
R squared = 0.251387  r = 0.501385

                COEF        STD ERROR     T-VALUE     P-LEVEL
B0          0.046966
B1         -0.000041         0.000021   -1.918082    0.064995
B2         -0.000080         0.000062   -1.294262    0.205787
B3         -0.000015         0.000008   -1.953965    0.060410

OVERALL REGRESSION FOR P1:
REGRESSION EQUATION = 1/P1 = b0 + b1 (phi) + b2 SUM(v S') + b3 SUM (w S'^2)
R squared = 0.720982, r = 0.849107, p = 0.000000.

RESULTS OF REGRESSION FOR VARIABLE P2:
DIVISION #1, BETWEEN 0.00 AND 27.00 (n = 22).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.002148
R squared = 0.142324  r = 0.377259

                COEF        STD ERROR     T-VALUE     P-LEVEL
B0          0.026433
```



```
B1         -0.000100         0.000055   -1.821766    0.083482

Variables not in model:

            PARTIAL CORR     TOLERANCE         R-SQ       F-VALUE       P-LEVEL    NEW WEIGHT
S'_(n-0 )       0.865852      0.973093     0.642999     56.908776      0.000000      0.163512
S'_(n-1 )       0.835213      0.911547     0.598298     43.826533      0.000002      0.157726
S'_(n-2 )       0.825940      0.886725     0.585087     40.781798      0.000004      0.155975
S'_(n-3 )       0.702427      0.979936     0.423180     18.505202      0.000385      0.132650
S'_(n-4 )       0.635871      0.906123     0.346786     12.896969      0.001947      0.120081
S'_(n-5 )       0.550386      0.943485     0.259811      8.256726      0.009729      0.103938
S'_(n-6 )       0.382059      0.990346     0.125194      3.247441      0.087424      0.072150
S'_(n-7 )       0.282009      0.969921     0.068210      1.641612      0.215522      0.000000
S'_(n-8 )       0.138375      0.938894     0.016423      0.370909      0.549723      0.000000
S'_(n-9 )       0.179813      0.984685     0.027731      0.634845      0.435428      0.000000
S'_(n-10)       0.497584      0.845384     0.212352      6.252199      0.021720      0.093967

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.001352
R squared = 0.677229  r = 0.822940

                COEF        STD ERROR     T-VALUE     P-LEVEL
B0          0.026256
B1         -0.000108         0.000035   -3.112322    0.005735
B2         -0.000402         0.000072   -5.611363    0.000021

Variables not in model:

                PARTIAL CORR     TOLERANCE         R-SQ       F-VALUE       P-LEVEL    NEW WEIGHT
(S'_(n-0 ))^2       0.571549      0.683151     0.105439      8.732739      0.008472      1.000000
(S'_(n-1 ))^2       0.182201      0.890060     0.010715      0.618065      0.441995      0.000000
```

(S'_(n-2))^2	0.038531	0.349122	0.000479	0.026763	0.871874	0.000000
(S'_(n-3))^2	0.187972	0.153425	0.011405	0.659297	0.427416	0.000000
(S'_(n-4))^2	0.119770	0.524650	0.004630	0.261965	0.614996	0.000000
(S'_(n-5))^2	0.145015	0.997949	0.006788	0.386662	0.541856	0.000000
(S'_(n-6))^2	0.358820	0.608917	0.041557	2.660012	0.120273	0.000000
(S'_(n-7))^2	0.041705	0.851009	0.000561	0.031362	0.861413	0.000000
(S'_(n-8))^2	0.124089	0.817467	0.004970	0.281500	0.602205	0.000000
(S'_(n-9))^2	0.039910	0.667749	0.000514	0.028716	0.867326	0.000000
(S'_(n-10))^2	0.096617	0.819961	0.003013	0.169610	0.685322	0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum(w_i, [S'_(i-n)]^2)
Standard error of regression = 0.001140
R squared = 0.782668 r = 0.884685

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.025756			
B1	-0.000140	0.000031	-4.495618	0.000280
B2	-0.000304	0.000069	-4.396319	0.000348
B3	0.000030	0.000010	2.955121	0.008472

RESULTS OF REGRESSION FOR VARIABLE P2:

DIVISION #2, BETWEEN 27.00 AND 60.00 (n = 27).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.002182
R squared = 0.255069 r = 0.505043

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.020523			
B1	0.000131	0.000045	2.925773	0.007212

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.704970	0.848469	0.370218	23.712096	0.000058	0.123472
S'_(n-1)	0.710295	0.980424	0.375832	24.437800	0.000048	0.124405
S'_(n-2)	0.686127	0.895102	0.350691	21.348922	0.000109	0.120172
S'_(n-3)	0.681850	0.787823	0.346333	20.853067	0.000125	0.119423
S'_(n-4)	0.580454	0.785825	0.250988	12.195130	0.001878	0.101664
S'_(n-5)	0.468570	0.966092	0.163555	6.751797	0.015761	0.082068
S'_(n-6)	0.450111	0.937536	0.150923	6.097808	0.021037	0.078835
S'_(n-7)	0.452910	0.991798	0.152806	6.193512	0.020155	0.079325
S'_(n-8)	0.490278	0.931920	0.179061	7.594444	0.010999	0.085870
S'_(n-9)	0.483990	0.885593	0.174498	7.341684	0.012236	0.084768
S'_(n-10)	0.276536	0.909282	0.056967	1.987313	0.171450	0.000000

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.001578
R squared = 0.626218 r = 0.791340

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.021100			
B1	0.000111	0.000033	3.401951	0.002346
B2	-0.000369	0.000076	-4.881701	0.000056

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.206757	0.732604	0.015979	1.027121	0.321379	0.000000
(S'_(n-1))^2	0.062825	0.912570	0.001475	0.091141	0.765445	0.000000
(S'_(n-2))^2	0.154292	0.613099	0.008898	0.560892	0.461492	0.000000
(S'_(n-3))^2	0.097844	0.872714	0.003578	0.222317	0.641722	0.000000
(S'_(n-4))^2	0.026906	0.375967	0.000271	0.016663	0.898413	0.000000
(S'_(n-5))^2	0.240337	0.229776	0.021590	1.409964	0.247181	1.000000
(S'_(n-6))^2	0.198386	0.621851	0.014711	0.942297	0.341786	0.000000
(S'_(n-7))^2	0.002764	0.990825	0.000003	0.000176	0.989539	0.000000
(S'_(n-8))^2	0.007330	0.820844	0.000020	0.001236	0.972262	0.000000
(S'_(n-9))^2	0.035729	0.991663	0.000477	0.029398	0.865363	0.000000
(S'_(n-10))^2	0.214384	0.747813	0.017179	1.108014	0.303448	0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum(w_i, [S'_(i-n)]^2)

Standard error of regression = 0.001564

my5

R squared = 0.647809 r = 0.804866

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.020958			
B1	0.000100	0.000033	2.990823	0.006529
B2	-0.000532	0.000156	-3.402567	0.002443
B3	0.000017	0.000015	1.187419	0.247181

RESULTS OF REGRESSION FOR VARIABLE P2:
DIVISION #3, BETWEEN 60.00 AND 100.00 (n = 27).

Partial results of regression (step #1).

Variables in: resp.
Standard error of regression = 0.002270
R squared = 0.025405 r = 0.159390

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.029649			
B1	-0.000033	0.000041	-0.807268	0.427126

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
S'_(n-0)	0.839410	0.729099	0.686709	57.248281	0.000000	0.122316
S'_(n-1)	0.780208	0.965839	0.593260	37.337805	0.000003	0.113689
S'_(n-2)	0.707006	0.884710	0.487159	23.986334	0.000054	0.103023
S'_(n-3)	0.681514	0.953366	0.452662	20.814741	0.000126	0.099308
S'_(n-4)	0.625402	0.972062	0.381191	15.417122	0.000634	0.091132
S'_(n-5)	0.556688	0.874645	0.302029	10.777660	0.003140	0.081119
S'_(n-6)	0.416308	0.878952	0.168910	5.031533	0.034389	0.060663
S'_(n-7)	0.389048	0.991525	0.147513	4.280481	0.049487	0.056691
S'_(n-8)	0.569869	0.849461	0.316500	11.542410	0.002373	0.083039
S'_(n-9)	0.658790	0.922065	0.422979	18.403164	0.000253	0.095997
S'_(n-10)	0.638383	0.976816	0.397179	16.508533	0.000449	0.093023

Partial results of regression (step #2).

Variables in: resp, sum[v_i S'_(i-n)].
Standard error of regression = 0.001427
R squared = 0.630254 r = 0.793886

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.030290			
B1	-0.000041	0.000026	-1.590478	0.124815
B2	-0.000422	0.000067	-6.265816	0.000002

Variables not in model:

	PARTIAL CORR	TOLERANCE	R-SQ	F-VALUE	P-LEVEL	NEW WEIGHT
(S'_(n-0))^2	0.231451	0.386769	0.019807	1.301843	0.265618	0.000000
(S'_(n-1))^2	0.443110	0.334972	0.072598	5.619287	0.026526	0.558940
(S'_(n-2))^2	0.349658	0.549595	0.045205	3.203688	0.086648	0.441060
(S'_(n-3))^2	0.322550	0.998105	0.038468	2.670753	0.115823	0.000000
(S'_(n-4))^2	0.293425	0.755078	0.031834	2.166814	0.154570	0.000000

(S'_(n-5))^2	0.037252	0.933577	0.000513	0.031962	0.859677	0.000000
(S'_(n-6))^2	0.227836	0.565129	0.019193	1.259276	0.273367	0.000000
(S'_(n-7))^2	0.186055	0.422836	0.012799	0.824731	0.373218	0.000000
(S'_(n-8))^2	0.041062	0.724388	0.000623	0.038845	0.845487	0.000000
(S'_(n-9))^2	0.074512	0.974049	0.002053	0.128408	0.723356	0.000000
(S'_(n-10))^2	0.171508	0.850552	0.010876	0.697049	0.412366	0.000000

Final results of regression (step #3).

Variables in: resp, sum[v_i S'_(i-n)], sum(w_i, [S'_(i-n)]^2)
Standard error of regression = 0.001302
R squared = 0.705119 r = 0.839713

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.030911			
B1	-0.000040	0.000024	-1.681675	0.106162
B2	-0.000229	0.000101	-2.268228	0.033017
B3	-0.000023	0.000010	-2.416448	0.024011

OVERALL REGRESSION FOR P2:
REGRESSION EQUATION = 1/P2 = b0 + b1 (phi) + b2 SUM(v S') + b3 SUM (w S'^2)
R squared = 0.740082, r = 0.860280, p = 0.000000.

Results of detrending for pp :
Division #1, between 0.00 and 25.00 (n = 20).
Detrending equation: PP = b0 + b1 (PHI)
Standard error of regression = 2.444351
R squared = 0.022157 r = 0.148852

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	-1.480743	1.112964	-1.330450	0.199119
B1	-0.048944	0.074593	-0.656140	0.519602

Results of detrending for pp :

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Division #2, between 25.00 and 60.00 (n = 36).
Detrending equation: PP = b0 + b1 (PHI)
Standard error of regression = 2.218121
R squared = 0.381788 r = 0.617890

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	-6.260953	1.516997	-4.127204	0.000225
B1	0.154983	0.033822	4.582287	0.000059

Results of detrending for pp :
Division #3, between 60.00 and 100.00 (n = 29).
Detrending equation: PP = b0 + b1 (PHI)
Standard error of regression = 1.735717
R squared = 0.498642 r = 0.706146

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	13.842453	2.510694	5.513396	0.000008
B1	-0.159771	0.030832	-5.182059	0.000019

Overall detrending for pp:
R squared = 0.465373, r = 0.682182, p = 0.000000.

Results of detrending for int :
Division #1, between 0.00 and 40.00 (n = 31).
Detrending equation: INT = b0 + b1 (PHI)
Standard error of regression = 0.020917
R squared = 0.508676 r = 0.713215

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	0.026913	0.007277	3.698587	0.000761
B1	-0.001783	0.000301	-5.933022	0.000001

Results of detrending for int :
Division #2, between 40.00 and 100.00 (n = 45).
Detrending equation: INT = b0 + b1 (PHI)
Standard error of regression = 0.019866
R squared = 0.676027 r = 0.822209

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	-0.104384	0.011567	-9.024705	0.000000
B1	0.001643	0.000164	10.008030	0.000000

Overall detrending for int:
R squared = 0.648513, r = 0.805303, p = 0.000000.

Results of detrending for p1 :
Division #1, between 0.00 and 20.00 (n = 14).
Detrending equation: P1 = b0 + b1 (PHI)
Standard error of regression = 1.631921
R squared = 0.194051 r = 0.440513

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	-0.615092	0.878921	-0.699826	0.495501
B1	0.142042	0.077366	1.835983	0.087686

Results of detrending for p1 :
Division #2, between 20.00 and 54.00 (n = 29).
Detrending equation: P1 = b0 + b1 (PHI)
Standard error of regression = 1.583885
R squared = 0.345154 r = 0.587499

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	4.530476	1.048885	4.319325	0.000149
B1	-0.110923	0.027441	-4.042204	0.000325

Results of detrending for p1 :
Division #3, between 54.00 and 100.00 (n = 33).
Detrending equation: P1 = b0 + b1 (PHI)
Standard error of regression = 0.999096
R squared = 0.100600 r = 0.317174

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	-2.606630	0.955454	-2.728159	0.009892
B1	0.024565	0.012416	1.978588	0.055774

my5

Overall detrending for p1:
R squared = 0.378545, r = 0.615260, p = 0.000000.

Results of detrending for p2 :
Division #1, between 0.00 and 27.00 (n = 22).
Detrending equation: P2 = b0 + b1 (PHI)
Standard error of regression = 3.672160
R squared = 0.162815 r = 0.403503

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	-1.264115	1.550883	-0.815094	0.423379
B1	0.189563	0.089630	2.114949	0.045479

Results of detrending for p2 :
Division #2, between 27.00 and 60.00 (n = 27).
Detrending equation: P2 = b0 + b1 (PHI)
Standard error of regression = 3.133258
R squared = 0.251336 r = 0.501334

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	7.974164	2.668325	2.988453	0.005549
B1	-0.181558	0.057210	-3.173545	0.003467

Results of detrending for p2 :
Division #3, between 60.00 and 100.00 (n = 27).
Detrending equation: P2 = b0 + b1 (PHI)
Standard error of regression = 3.194186
R squared = 0.032189 r = 0.179414

	COEF	STD ERROR	T-VALUE	P-LEVEL
B0	-5.401448	4.620354	-1.169055	0.252599
B1	0.053767	0.056738	0.947637	0.351719

Overall detrending for p2:
R squared = 0.234725, r = 0.484484, p = 0.000002.

Results of linear model for pp :
Linear model equation: PP = b0 + b1 (I_n-1) + b2 (D_n)
Standard error of linear model = 1.595737
R squared = 0.423274 r = 0.650595

	COEF	STD ERROR	T-VALUE	P
B0	15.536656	8.314479	1.868626	0.065246
B1	11.772077	9.043612	1.301701	0.196664
B2	0.374807	0.048643	7.705242	0.000000

Overall results of linear modelling of pp
after retrending: R-squared = 0.705763, r = 0.840097.

Results of linear model for int :
Linear model equation: INT = b0 + b1 (S_n) + ... + b(1+m) (S_n-m)
Standard error of linear model = 0.016593
R squared = 0.224139 r = 0.473433

	COEF	STD ERROR	T-VALUE	P
B0	0.897160	0.043271	20.733637	0.000000
B1	-0.002846	0.001116	-2.549186	0.012786
B2	0.003244	0.001692	1.918000	0.058819
B3	-0.002608	0.001702	-1.532038	0.129611
B4	0.001715	0.001695	1.011914	0.314748
B5	-0.000749	0.001683	-0.444880	0.657655
B6	0.001161	0.001677	0.692014	0.491010
B7	0.000253	0.001713	0.147615	0.883032
B8	0.000849	0.001705	0.497785	0.620054
B9	-0.001682	0.001702	-0.988609	0.325951
B10	0.000749	0.001673	0.447375	0.655860
B11	-0.001021	0.001089	-0.937950	0.351203

Overall results of linear modelling of int
after retrending: R-squared = 0.777622, r = 0.881829.

Results of linear model for p1 :
Linear model equation: P1 = b0 + b1 (S_n) + ... + b(1+m) (S_n-m)
Standard error of linear model = 0.914672
R squared = 0.499704 r = 0.706897

	COEF	STD ERROR	T-VALUE	P
B0	27.892410	2.385304	11.693443	0.000000
B1	-0.142264	0.061539	-2.311763	0.023466
B2	-0.058572	0.093246	-0.628151	0.531764
B3	0.024372	0.093846	0.259697	0.795791
B4	0.152357	0.093431	1.630688	0.107040
B5	-0.110160	0.092802	-1.187038	0.238862

my5

B6	-0.134074	0.092458	-1.450109	0.151089
B7	0.173174	0.094434	1.833803	0.070547
B8	-0.040987	0.093999	-0.436036	0.664031
B9	-0.033093	0.093796	-0.352820	0.725187
B10	0.015371	0.092236	0.166650	0.868082
B11	0.109983	0.060027	1.832226	0.070784

Overall results of linear modelling of p1
after retrending: R-squared = 0.725163, r = 0.851565.

Results of linear model for p2 :
Linear model equation: P2 = b0 + b1 (S_n) + ... + b(1+m) (S_n-m)
Standard error of linear model = 1.774322
R squared = 0.740714 r = 0.860648

	COEF	STD ERROR	T-VALUE	P
B0	-19.177324	4.627120	-4.144549	0.000087
B1	0.386065	0.119377	3.234000	0.001799

B2	0.032302	0.180882	0.178580	0.858736
B3	-0.022358	0.182047	-0.122815	0.902574
B4	0.131500	0.181242	0.725549	0.470315
B5	0.125356	0.180022	0.696338	0.488314
B6	-0.093649	0.179354	-0.522145	0.603068
B7	-0.207466	0.183188	-1.132534	0.260924
B8	0.034119	0.182343	0.187113	0.852064
B9	0.014579	0.181950	0.080128	0.936343
B10	0.180156	0.178925	1.006884	0.317144
B11	0.061368	0.116443	0.527024	0.599692

Overall results of linear modelling of p2
after retrending: R-squared = 0.805269, r = 0.897368.

Results of linear model for diast :
Linear model equation: D_n+1 = b0 + b1(D) + b2(D') + b3(D'') + b4(PP) + b5(INT) + b6(P1) + b7(P2)
Standard error of linear model = 1.692442
R squared = 0.811250 r = 0.900694

	COEF	STD ERROR	T-VALUE	P
B0	23.476593	12.040840	1.949747	0.054847
B1	0.687610	0.091139	7.544638	0.000000
B2	-0.010247	0.027775	-0.368933	0.713190
B3	0.000340	0.001571	0.216278	0.829343
B4	0.242268	0.174383	1.389289	0.168750
B5	-31.264178	9.966066	-3.137063	0.002418
B6	0.030219	0.223263	0.135354	0.892686
B7	0.143259	0.102847	1.392934	0.167649

Results of linear model for ddiast :
Linear model equation: D'_n+1 = b0 + b1(D) + b2(D') + b3(D'') + b4(PP) + b5(INT) + b6(P1) + b7(P2)
Standard error of linear model = 23.153056
R squared = 0.065080 r = 0.255107

	COEF	STD ERROR	T-VALUE	P
B0	134.689350	164.721906	0.817677	0.416065
B1	0.467101	1.246804	0.374638	0.708959
B2	0.486366	0.379975	1.279996	0.204389
B3	-0.019954	0.021487	-0.928646	0.355975
B4	-2.006547	2.385601	-0.841108	0.402892
B5	-33.054995	136.338450	-0.242448	0.809078
B6	-2.588607	3.054300	-0.847529	0.399327
B7	-0.035583	1.406971	-0.025291	0.979889

Results of linear model for dddiast :
Linear model equation: D''_n+1 = b0 + b1(D) + b2(D') + b3(D'') + b4(PP) + b5(INT) + b6(P1) + b7(P2)
Standard error of linear model = 404.927126
R squared = 0.083788 r = 0.289461

	COEF	STD ERROR	T-VALUE	P
B0	3035.741908	2880.845171	1.053768	0.295285
B1	20.493780	21.805544	0.939843	0.350237
B2	9.578570	6.645429	1.441377	0.153533
B3	-0.395202	0.375792	-1.051652	0.296249
B4	-16.095123	41.722115	-0.385770	0.700731

B5	-1901.358317	2384.442814	-0.797402	0.427670
B6	-34.047131	53.417093	-0.637383	0.525766
B7	-19.466770	24.606711	-0.791116	0.431306

Results of windkessel model for diast :

my5

Overall results for diast:
R-squared = 0.967805, r = 0.983771.

NONLINEAR FORECAST RESULTS (In-sample, n = 66):

STEP	PP	INT	P1	P2	DIAST
0	0.870946	0.880510	0.825482	0.835628	1.000000
1	0.250430	0.833160	0.522666	-0.016836	0.239932
2	0.401433	0.525215	0.286157	0.131196	0.206496
3	0.466682	0.555049	0.302791	-0.149310	0.310385
4	0.428255	0.553508	0.022511	-0.175106	0.389741
5	0.140298	0.432448	-0.053383	-0.132583	0.272743
6	0.090527	0.460040	0.231591	-0.116937	0.276767
7	-0.005557	0.322884	0.079897	-0.105633	0.254201
8	-0.036977	0.260141	0.044614	0.053474	0.315442
9	0.146545	0.195530	0.034451	0.054852	0.465568
10	0.203327	0.237828	-0.034343	-0.048294	0.501031

NONLINEAR FORECAST RESULTS (Out-of-sample, n = 31):

STEP	PP	INT	P1	P2	DIAST
0	0.782431	0.893604	0.571994	0.694922	1.000000
1	0.364335	0.861227	0.156037	-0.229422	-0.022363
2	0.574508	0.783174	0.172961	-0.232624	0.624156
3	0.382189	0.815951	0.191594	-0.331167	0.497353
4	0.107355	0.831976	-0.139583	-0.298017	0.333888
5	-0.136499	0.785164	-0.162511	-0.440494	0.168149
6	-0.238197	0.731082	0.208770	-0.259976	0.277407
7	-0.282521	0.598929	0.093011	-0.247223	0.172790
8	-0.332299	0.648604	0.018045	-0.315586	0.044505
9	-0.259467	0.802516	-0.094677	-0.408346	-0.041019
10	-0.314079	0.810284	0.104475	-0.393413	0.068212

LINEAR FORECAST RESULTS (In-sample, n = 66):

STEP	PP	INT	P1	P2	DIAST
0	0.851903	0.871432	0.822851	0.861763	1.000000
1	0.808800	0.840026	0.799909	0.794332	0.863591
2	0.801375	0.756940	0.792764	0.772666	0.662273
3	0.762283	0.722898	0.774859	0.734780	0.526513
4	0.685979	0.719636	0.743251	0.693904	0.539309
5	0.649411	0.685411	0.698977	0.715877	0.647294
6	0.642135	0.680567	0.711668	0.760207	0.745012
7	0.660247	0.677959	0.714627	0.690723	0.689770
8	0.694895	0.637712	0.718420	0.674398	0.535186
9	0.646736	0.607035	0.714211	0.664808	0.466770
10	0.563825	0.606652	0.681949	0.651285	0.549004

LINEAR FORECAST RESULTS (Out-of-sample, n = 31):

STEP	PP	INT	P1	P2	DIAST
0	0.777559	0.871822	0.650133	0.706078	1.000000
1	0.783920	0.887924	0.599495	0.701004	0.478014
2	0.805728	0.901488	0.644375	0.746603	-0.352546
3	0.800915	0.891788	0.730001	0.690247	-0.603853
4	0.816426	0.897389	0.704578	0.616151	-0.296537
5	0.856139	0.882036	0.662889	0.649124	0.233980
6	0.852317	0.870097	0.676417	0.679474	0.577910
7	0.862523	0.859324	0.639708	0.662755	0.255353
8	0.867919	0.860903	0.607248	0.682256	-0.536804
9	0.854782	0.862013	0.632289	0.699974	-0.853716
10	0.860378	0.858921	0.620107	0.639507	-0.672010

Error analysis for long forecast into file nl16.00:
Errors in p1: 0
Errors in p2: 1
Errors in p5: 0
Post inflection adjustment in p5: 9

my5

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