

Problem set #1 for 12.119 (Due 2/16/2006)

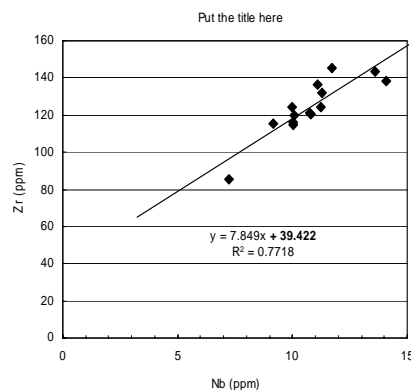
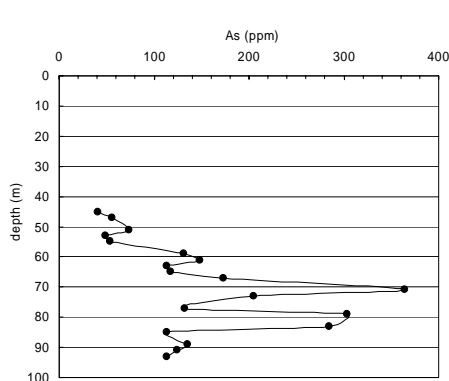
Using EXCEL to organize and analyze data and make diagrams

The following table is the INAA data for a sediment core from Mystic lake which we studied in previous 12.119 class.

Depth (m)	As (ppm)	Hf (ppm)	La (ppm)	Yb (ppm)	Zn (ppm)
7	55.9	3.55	26.6	1.97	1493
9	52.1	4.00	29.2	1.92	1334
13	55.2	4.02	32.9	1.95	1420
15	62.9	3.64	29.2	1.92	1623
19	44.7	5.13	31.1	2.26	1250
21	41.7	4.01	30.9	2.20	1251
23	44.6	4.19	32.4	2.09	1338
25	52.8	3.72	29.8	2.02	1628
27	41.5	4.21	33.50	2.22	1590
31	55.8	4.03	32.77	2.09	2080
33	48.1	4.06	29.96	2.13	1659
35	42.7	4.48	32.60	2.15	1330
39	49.2	4.40	29.08	1.83	1533
41	48.9	5.00	32.58	2.51	1262

- (1) Input (or copy & paste) the above table into an excel file (as shown above)
- (2) Plot depth (Y-axis) versus trace element (X-axis) in 5 figures as shown in the example
- (3) Please use excel to plot La (x-axis) versus the other trace element (y-axis) to find the trace element that has the **best** correlation (R^2 is the correlation coefficient as shown in the following example) with La.

Example:



Questions? Email TA.

Some hints for the Excel problem set:

- Choose “**Chart**” option under the “**Insert**” menu at the top of the spreadsheet to insert a new diagram;
- Plot your data using a “**XY (Scatter)**” (not a “**line plot**”!) in order to add trendlines;
- In the Chart Source Data section of the scatter plot, add the data as “**Series**” (not “**Data Range**”);
- To make a new plot that is similar to an old one, you can copy and paste a plot you have already made, and then change the source data. (On a PC, right click on the plot to bring up the “**Source data...**” option.);
- Add a trendline by left-clicking on the data points on your chart, then right-clicking to “**Add trendline**”. Alternatively, click on the chart (not the data spreadsheet) and find the “**Add trendline**” option under the “**Chart**” menu at the top of the spreadsheet. Make sure to choose a linear trendline, and select “**Display equation on chart**” and “**Display R-squared value on chart**” under the trendline Options.