

PUBLICATIONS AND REPORTS

MEETING PAPERS PRESENTED

153rd Meeting, American Astronomical Society, Mexico City, Mexico

January 7-10, 1979

Abstracts in Bull. Am. Astron. Soc. 10 (1978)

A.D. Haschick, J.A. Garcia-Barreto, and B.F. Burke, Time Variations of H₂O Masers in W49 (p. 626)

M.T. Stier, G.G. Fazio, and E.L. Wright, Far-Infrared Survey of the Giant Molecular Cloud Complex Southwest of M17 (p. 626)

Seminar at the Geophysics Department, University of British Columbia, Vancouver, Canada

January 10, 1979

A.V. Oppenheim, Phase in Speech and Pictures

IEEE Conference on Decision and Control, 17th Symposium on Adaptive Processes, San Diego, California

January 10-12, 1979

A.V. Oppenheim, Talk is Cheap (Invited)

Fifth Annual Meeting, Berkeley Linguistic Society, University of California, Berkeley, California

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Suzanne Boyce and Lise Menn, Peaks Vary, Endpoints Don't: Implications for Intonation Theory (pp. 373-384)

Second International Conference on Infrared Physics, ETH, Zurich, Switzerland

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F. Brown and D. Muehlnher, Focusing of Coherent Terahertz Sound

Conference on Thermal Characteristics of Tumors, New York, New York

March 14-16, 1979

P.C. Myers, A.H. Barrett, and N.L. Sadowsky, Microwave Thermography of Normal and Cancerous Breast Tissue

1979 March Meeting, American Physical Society, Chicago, Illinois

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Division of Physical Chemistry Meeting, American Chemical Society, Honolulu, Hawaii

April 1-6, 1979

T.A. Brunner, R.D. Driver, N. Smith, and D.E. Pritchard, Simple Scaling Law for Rotational-Energy Transfer in Na_2^*-Xe Collisions

T.A. Brunner, N. Smith, R.D. Driver, and D.E. Pritchard, Velocity Dependence of Rate Constants for Rotation Changing Collisions in Na_2^*-Xe

M. Wainer, I. Al-Agil, T.A. Brunner, A. Karp, N. Smith, and D.E. Pritchard, Rotational Energy Transfer (RET) of $\text{Na}_2^*[\text{A}^1\Sigma]$ in Collision with He, Ne, Ar, Kr, H_2 , N_2 , and CH_4

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1979 IEEE International Conference on Communications, Boston, Massachusetts
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R.H. Berman and J.L. Kulp, A New Environment for Computational Physics
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Sixth International Conference on Molecular Energy Transfer, Comtral Center,
Lioujas, Rodez, France

July 16-20, 1979

T.A. Brunner, N. Smith, R.D. Driver, and D.E. Pritchard, Rotational
Energy Transfer in Na_2^* - Rare Gas Collisions - Level to Level Dynamics

Second World Congress for Microcirculation, La Jolla, California

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Abstracts in Microvascular Research

S.R. Bussolari, C.F. Dewey, Jr., and M.A. Gimbrone, Jr., Apparatus for
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Symposium on Atomic Spectroscopy, Tucson, Arizona

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D. Kleppner, The Spectroscopy of Rydberg Atoms in Strong Fields

M.G. Littman, M.D. Havey, W.D. Phillips, W.M. Finlay, and D. Kleppner, Avoided Crossing of Lithium Stark States: Non-Adiabatic Effects in a Two-Level System

M.L. Zimmerman and R.R. Freeman, Origin of the Landau-like Resonance of Rydberg Atoms in High Magnetic Fields

1979 IEEE Symposium on Sonics and Ultrasonics, New Orleans, Louisiana

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E.D. Trautman, M.C. Long, and R.S. Newcower, Conductivity Sensing for Indicator-Dilution Measurements: Validation

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Fourth International Conference on Infrared and Near Waves and Their Applications, Miami Beach, Florida

December 10-15, 1979

Papers in Conference Digest

D. Kleppner, W.P. Spencer, A.G. Vaidyanathan, and T.W. Ducas, FIR Detection Using Rydberg Atoms (Post-Deadline pp. 58-59)

JOURNAL PAPERS PUBLISHED

(Reprints, if available, may be obtained from the Document Room 36-412, Research Laboratory of Electronics, Massachusetts Institute of Technology, Cambridge, Massachusetts 02139.)

- T. Antonsen, Jr. and S.M. Mahajan, Stability Properties of Collisionless Universal Drift Modes in Sheared Slab Geometry (Phys. Fluids 22, 1836-1838 (1979))
- T. Antonsen, B. Coppi, and R. Englade, Inward Particle Transport by Plasma Collective Modes (Nucl. Fusion 9, 641-658 (1979))
- A.H. Barrett, P.C. Myers, and N.L. Sadowsky, Microwave Thermography in the Detection of Breast Cancer (Am. J. Roentgend. 134, 365-368 (1980))
- G. Bekefi and R.E. Shefer, Stimulated Raman Scattering by an Intense Relativistic Electron Beam Subjected to a Rippled Field (J. Appl. Phys. 50, 5158-5164 (1979))
- S.E. Blumstein and K.N. Stevens, Acoustic Invariance in Speech Production: Evidence from Measurements of the Spectral Characteristics of Stop Consonants (J. Acoust. Soc. Am. 66, 1001-1017 (1979))
- S.E. Blumstein and K.N. Stevens, Perceptual Invariance and Onset Spectra for Stop Consonants in Different Vowel Environments (J. Acoust. Soc. Am. 67, 648-662 (1980))
- M.H. Brill, Further Features of the Illuminant-Invariant Trichromatic Photosensor (J. Theor. Biol. 78, 305-308 (1979))
- L. Bromberg and L.D. Smullin, Gas Discharges in Planar, Low Pressure, Thermionic Diodes. I. Space Charge Regime (J. Appl. Phys. 50, 2630-2633 (1979))
- L. Bromberg and L.D. Smullin, Gas Discharges in Planar, Low Pressure, Thermionic Diodes. II. Plasma Regime (J. Appl. Phys. 50, 2634-2637 (1979))
- A.M. Chang and D.E. Pritchard, Effects of Interatomic Attraction on Total Cross Sections in Curve Crossing Collisions (J. Chem. Phys. 70, 4524-4533 (1979))
- W.C. Chew and J.A. Kong, Effects of Fringing Fields on the Capacitance of Circular Microstrip Disk (IEEE Trans (MTT) Vol. MTT-28, No. 2, pp. 98-104, Feb. 1980)
- W.C. Chew and J.A. Kong, Resonance of the Axial-Symmetric Mode in Microstrip Disk Resonators (J. Math. Phys. 21, 582-591 (1980))
- R.S. Chu and J.A. Kong, Diffraction of Optical Beams with Arbitrary Profiles by a Periodically-Modulated Layer (J. Opt. Soc. Am. 70, 1-6 (1980))
- B. Coppi, A. Ferreira, J.W-K. Mark, and J.J. Ramos, Ideal MHD Stability of Finite- β Plasmas (Nucl. Fusion 19, 715-725 (1979))

JOURNAL PAPERS PUBLISHED (continued)

- B. Coppi, J.W-K. Mark, Linda Sugiyama, and G. Bertin, Magnetic Reconnection in Collisionless Plasmas (Ann. Phys. 119, 370-404 (1979))
- B. Coppi and E. Mazzucato, Transport of Electron Thermal Energy in High Temperature Plasmas (Phys. Lett. 71A, 337-340 (1979))
- B. Coppi, J. Filreis, and F. Pegoraro, Analytical Representation and Physics of Ballooning Modes (Am. Phys. 121, 1-31 (1979))
- B. Coppi, A. Ferreira, J.W-K. Mark, and J.J. Ramos, A "Second" Stability Region of Finite- β Plasmas (Comments Plasma Phys. Controlled Fusion 5, 1-8 (1979))
- B. Djermakoye and J.A. Kong, Radiative Transfer Theory for the Remote Sensing of Layered Random Media (J. Appl. Phys. 50, 6600-6604 (1979))
- M. Florentine and E. Zwicker, A Model of Loudness Summation Applied to Noise-Induced Hearing Loss (Hearing Res. 1, 121-132 (1979))
- C.M. Gee and M. Kastner, Intrinsic-Defect Photoluminescence in Amorphous and Crystalline SiO₂ (J. Non-Cryst. Solids 35/36, 927-932 (1980))
- L.A. Glasser and R.L. Kyhl, The Silicon Cryosar at Microwave Frequencies (IEEE Trans. Vol. ED-26, No. 6, pp. 966-970, June 1979)
- P.E. Greenfield, D.H. Roberts, and B.F. Burke, The Double Quasar 0957 + 561: Examination of the Gravitational Lens Hypothesis Using the Very Large Array (Science 208, 495-497 (1980))
- E.R. Gruberg, E. Kieliter, E.A. Newman, L. Kass, and P.H. Hartline, Connections on the Tectum of the Rattlesnake Crotalus viridis: An HRP Study (J. Comp. Neurol. 188, 31-34 (1979))
- R.P. Hackel, L.S. Hackel, and S. Ezekiel, Re-evaluation of the Hyperfine Coupling Constants for B-X Transitions in I₂ (Phys. Rev. A 21, 1342-1343 (1980))
- A.D. Haschick, J.M. Moran, L.F. Rodriguez, B.F. Burke, P. Greenfield, and J.A. Garcia-Barreto, Observations of a Compact H II Region and Water Vapor Maser Sources in the Vicinity of the Herbig-Haro Objects 7-11 (Astrophys. J. 237, 26-37 (1980))
- H.A. Haus, Physical Interpretation of Inverse Scattering Formalism Applied to Self-Induced Transparency (Revs. Modern Phys. 51, 331-339 (1979))
- H.A. Haus and P.T. Ho, Effect of Noise on Active Modelocking of a Diode Laser (IEEE J. Quantum Electron., Vol. QE-15, No. 11, pp. 1258-1265, November 1979)
- A. Hershcovitch and P.A. Politzer, Analysis of the Stabilization of the Drift-Cone Mode by the Injection of RF Power (Phys. Fluids 22, 1497-1499 (1979))

JOURNAL PAPERS PUBLISHED (continued)

- P.T. Ho, A.H. Barrett, P.C. Myers, D.N. Matsakis, A.C. Cheung, M.F. Chui, C.H. Townes, and K.S. Yngvesson, Ammonia Observations of the Orion Molecular Cloud (Astrophys. J. 234, 912-921 (1979))
- T. Holton, Relations between Frequency Selectivity and Two-Tone Rate Suppression in Lizard Cochlear Nerve Fibers (Hearing Res. 2, 21-38 (1980))
- M. Holz and S.H. Chen, Spatio-Temporal Structure of Migrating Chemotactic Band of Escherichia Coli. I. Traveling Band Profile (Biophys. J. 26, 243-262 (1979))
- A.J.M. Houtsma, R.W. Wicke, and A. Ordubadi, Pitch of Amplitude-Modulated Low-Pass Noise and Predictions by Temporal and Spectral Theories (J. Acoust. Soc. Am. 67, 1312-1322 (1980))
- A.J.M. Houtsma, Musical Pitch of Two-Tone Complexes and Predictions by Modern Pitch Theories (J. Acoust. Soc. Am. 66, 87-99 (1979))
- D.J. Kaup, A. Reiman, and A. Bers, Space-Time Evolution of Nonlinear Three-Wave Interactions. I. Interaction in a Homogeneous Medium (Revs. Modern Phys. 51, 275-309 (1979))
- M.A. Khan, D.J. Muehlnner, and P.A. Wolff, Resonant Four Wave Mixing in n-Type Silicon (Optics Comm. 30, 206-208 (1979))
- S.H. Kim and C.G. Fonstad, Tunable Narrow-Band Twin Film Waveguide Grating Filters (IEEE J. Quantum Electron. Vol. QE-15, No. 12, pp. 1405-1408, December 1979)
- D. Klatt, Software for a Cascade/Parallel Formant Synthesizer (J. Acoust. Soc. Am. 67, 971-995 (1980))
- D.H. Klatt, Speech Perception: A Model of Acoustic-Phonetic Analysis and Lexical Access (J. Phonetics 7, 279-312 (1979))
- J.A. Kong, R. Shin, J.C. Shiue, and L. Tsang, Theory and Experiment for Passive Microwave Remote Sensing of Snowpacks (J. Geophys. Res. 84, 5669-5673 (1979))
- V.B. Krapchev, Quasilinear Theory of Parametric Processes in Unmagnetized Plasmas (Phys. Fluids 22, 1657-1663 (1979))
- R.B. Laughlin, J.D. Joannopoulos, and D.J. Chadi, The Bulk Electronic Structure of SiO₂ (Phys. Rev. B 20, 5228-5237 (1979))
- R.B. Laughlin, J.D. Joannopoulos, and D.J. Chadi, The Use of the Cluster-Bethe-Lattice Method in Surface Studies (J. Vac. Sci. Technol. 16, 1327-1330 (1979))

JOURNAL PAPERS PUBLISHED (continued)

- G. Leclert, C.F.F. Karney, A. Bers, and D.J. Kaup, Two-Dimensional Selfmodulation of Lower-Hybrid Waves in Inhomogeneous Plasmas (Phys. Fluids 22, 1545-1553 (1979))
- J.S. Lim and A.V. Oppenheim, Enhancement and Bandwidth Compression of Noisy Speech (Proc. IEEE Vol. 67, No. 12, pp. 1586-1604, December 1979)
- J.D. Litster, J. Als-Nielsen, R.J. Birgeneau, S.S. Dana, D. Davidov, F. Garcia-Golding, M. Kaplan, C.R. Safinya, and R. Schaezting, High Resolution X-Ray and Light Scattering Studies of Bilayer Smectic A Compounds (J. Phys. (Paris) 40, C3-339-C3-344 (1979))
- E.J. Mele and J.D. Joannopoulos, Double-Dangling-Bond Defects and Band Bending at the GaAs (110) Surface (Phys. Rev. B 19, 2928-2932 (1979))
- E.J. Mele and J.D. Joannopoulos, Electronic Structure of Al Chemisorbed on GaAs (110) (J. Vac. Sci. Technol. 16, 1154-1158 (1979))
- G.K. Montress and M.S. Gupta, Microwave Characterization of Silicon BARITT Diodes under Large-Signal Conditions (IEEE Trans. Vol. MTT-27, No. 5, pp. 458-462, May 1979)
- J.M.F. Moura, Passive Systems Theory with Narrow-Band and Linear Constraints: Part II—Temporal Diversity (IEEE J. Vol. OE-4, No. 1, pp. 19-30, January 1979)
- P.C. Myers, N.L. Sadowsky, and A.H. Barrett, Microwave Thermography: Principles, Methods and Clinical Applications (J. Microwave Power 14, 105-115 (1979))
- H. Nawab and J.H. McClellan, Bounds on the Minimum Number of Data Transfers in WFTA and FFT Programs (IEEE Trans. (ASSP) Vol. ASSP-27, No. 4, pp. 394-398, August 1979)
- R.N. Ohde and D.J. Sharf, Relationship between Adaption and the Percept and Transformations of Stop Consonant Voicing: Effects of the Number of Repetitions and Intensity of Adaptors (J. Acoust. Soc. Am. 66, 30-45 (1979))
- C.M. Oman, L.S. Frishkopf, and M.H. Goldstein, Jr., Cupula Motion in the Semicircular Canal of the Skate, Raja Erinacea (Acta Oto-Laryngol. 87, 528-538 (1979))
- T.J. Orzechowski and G. Bekefi, Microwave Emission from Pulsed, Relativistic e-Beam Diodes. I. The Smooth-Bore Magnetron (Phys. Fluids 22, 978-985 (1979))
- A. Palevsky and G. Bekefi, Microwave Emission from Pulsed, Relativistic e-Beam Diodes. II. The Multiresonator Magnetron (Phys. Fluids 22, 986-996 (1979))

JOURNAL PAPERS PUBLISHED (continued)

- W.T. Peake and A. Ling, Jr., Basilar-Membrane Motion in the Alligator Lizard: Its Relation to Tonotopic Organization and Frequency Selectivity (J. Acoust. Soc. Am. 67, 1736-1745 (1980))
- M.R. Portnoff, Time-Frequency Representation of Digital Signals and Systems Based on Short-Time Fourier Analysis (IEEE Trans. (ASSP) Vol. ASSP-28, No. 1, pp. 55-69, February 1980))
- S.R. Purks, D.J. Callahan, L.D. Braida, and N.I. Durlach, Intensity Perception. X. Effect of Preceding Stimulus on Identification Performance (J. Acoust. Soc. Am. 67, 634-637 (1980))
- T.F. Quatieri, Jr., Minimum and Mixed Phase Speech Analysis-Synthesis by Adaptive Homomorphic Deconvolution (IEEE Trans. (ASSP) Vol. ASSP-27, No. 4, pp. 328-335, August 1979)
- J.J. Ramos, An Analytical Local Approach to Flux-Conserving Tokamak Equilibrium (J. Plasma Phys. 22, 97-104 (1979))
- S.A. Raymond, Effects of Nerve Impulses on Threshold of Frog Sciatic Nerve Fibres (J. Physiol. 290, 273-303 (1979))
- A. Reiman, Space-Time Evolution of Nonlinear Three-Wave Interactions. II. Interaction in an Inhomogeneous Medium (Revs. Modern Phys. 51, 311-330 (1979))
- D.H. Roberts, P.E. Greenfield, and B.F. Burke, The Double Quasar 0957 + 561: A Radio Study at 6-Centimeters Wavelength (Science 205, 894-896 (1979))
- J.R. Ross, Wem der Kasus Schlägt (Linguistische Berichte 63, 26-32 (1979))
- B.R. Ruotolo, R.M. Stern, Jr., and H.S. Colburn, Discrimination of Symmetric Time-Intensity Traded Binaural Stimuli (J. Acoust. Soc. Am. 66, 1733-1737 (1979))
- C.R. Safinya, M. Kaplan, J. Als-Nielsen, R.J. Birgeneau, D. Davidov, J.D. Litster, D.L. Johnson, and M.E. Neubert, High Resolution X-Ray Study of Smectic A-Smectic C Phase Transition (Phys. Rev. B 21, 4149-4153 (1980))
- Stefanie Shattuck-Hufnagel and D.H. Klatt, The Limited Use of Distinctive Features and Markedness in Speech Production: Evidence from Speech Error Data (J. Verb. Lear. Behavior 18, 41-55 (1979))
- Ruth E. Shefer and G. Bekefi, Stark Broadening Induced by the Intense Electric Field of a Pulsed Relativistic Magnetron (Phys. Fluids 22, 1584-1586 (1979))
- D.E. Troxel, W.F. Schreiber, P. Curlander, A. Gilkes, R. Grass, and G. Hoover, Image Enhancement/Coding Systems Using Pseudorandom Noise Processing (Proc. IEEE Vol. 67, No. 6, pp. 972-973, June 1979)

JOURNAL PAPERS PUBLISHED (continued)

- L. Tsang and J.A. Kong, Energy Conservation for Reflectivity and Transmissivity at a Very Rough Surface (J. Appl. Phys. 51, 673-680 (1980))
- L. Tsang and J.A. Kong, Asymptotic Solution for the Reflectivity of a Very Rough Surface (J. Appl. Phys. 51, 681-690 (1980))
- L. Tsang and J.A. Kong, Wave Theory for Microwave Remote Sensing of a Half-Space Random Medium with Three-Dimensional Variations (Radio Sci. 14, 359-369 (1979))
- L. Tsang and J.A. Kong, Radiative Transfer Theory for Scattering by Layered Media (J. Appl. Phys. 50, 2465-2469 (1979))
- L. Tsang and J.A. Kong, Modified Modal Theory of Transient Responses in Layered Media (J. Math. Phys. 20, 1170-1182 (1979))
- L. Tsang and D. Rader, Numerical Evaluation of Transient Acoustic Waveform Due to a Point Source in a Fluid-Filled Borehole (Geophys. 44, 1706-1720 (1979))
- M. Wainger, I. Al-Agil, T.A. Brunner, A.W. Karp, N. Smith, and D.E. Pritchard, Power Law Scaling of Rotational Energy Transfer in Na_2 ($A\Sigma$) + He, H_2 , CH_4 , and N_2 (J. Chem. Phys. 71, 1977-1978 (1979))
- E.L. Wright, Distortion of the Microwave Background by a Hot Intergalactic Medium (Astrophys. J. 232, 348-351 (1979))
- J.P. Yangos and S.H. Chen, Simple Low-Cost Digital Events Analyzer (Rev. Sci. Instrum. 51, 344-350 (1980))
- H.P. Yuen and J.H. Shapiro, Optical Communication with Two-Photon Coherent States — Part III: Quantum Measurements Realizable with Photoemissive Detectors (IEEE Trans. (IT) Vol. IT-26, No. 1, pp. 78-92, January 1980)
- M.L. Zimmerman, M.G. Littman, M.M. Kash, and D. Kleppner, Stark Structure of the Rydberg States of Alkali-Metal Atoms (Phys. A 20, 2251-2275 (1979))
- V.W. Zue and Martha Laferriere, Acoustic Study of Medial /t,d/ in American English (J. Acoust. Soc. Am. 66, 1039-1050 (1979))
- M. Zuniga, T.M. Habashy, and J.A. Kong, Active Remote Sensing of Layered Random Media (IEEE Trans. (Geosci. Electron.) Vol. GE-17, No. 4, pp. 296-302, October 1979)
- M. Zuniga and J.A. Kong, Active Remote Sensing of Random Media (J. Appl. Phys. 51, 74-79 (1980))

- T.M. Antonsen, Jr. and B. Lane, Kinetic Equations for Low Frequency Instabilities in Inhomogeneous Plasmas (Phys. Fluids)
- G. Bekefi, Electrically Pumped, Relativistic, Free Electron Wave Generators (J. Appl. Phys.)
- W.C. Chew, J.A. Kong, and L.C. Shen, Radiation Characteristics of a Circular Microstrip Antenna (J. Appl. Phys.)
- W.C. Chew and J.A. Kong, Resonance of Non-Axial Symmetric Modes in Circular Microstrip Disk Antenna (J. Math. Phys.)
- S.L. Chuang, L. Tsang, J.A. Kong, and W.C. Chew, The Equivalence of the Electric and Magnetic Surface Current Approaches in Microstrip Antenna Studies (IEEE Trans. (AP))
- B. Coppi and A. Taroni, Simulation of High Temperature Regimes and Confinement Scaling (Comments Plasma Phys. Controlled Fusion)
- B. Coppi and F. Pegoraro, Interaction of Magnetic Plasma Fluctuations with Fusion-Produced α -Particles (Comments Plasma Phys. Controlled Fusion)
- B. Coppi, Non-Classical Transport and the "Principle of Profile Consistency" (Comments Plasma Phys. Controlled Fusion)
- V. Fuchs, L. Harten, and A. Bers, A Note on Tokamak Ignition Equilibria and Thermal Stability (Nucl. Fusion)
- C.M. Gee and M. Kastner, Intrinsic-Defect Photoluminescence from E Centers in SiO_2 (J. Non-Cryst. Solids)
- L.A. Glasser, A Linearized Theory for the Diode Laser in an External Cavity (IEEE J. (QE))
- E.R. Gruberg and J.Y. Lettvin, Anatomy and Physiology of a Binocular System in the Frog Rana pipiens (Brain Res.)
- E.M. Hammonds, P. Heiney, P.W. Stephens, R.J. Birgeneau, and P. Horn, Structure of Liquid and Solid Monolayer Xenon on Graphite (J. Phys. C)
- L. Harten, V. Fuchs, and A. Bers, Creating Stable Tokamak Reactor Equilibria by Supplemental Heating (Nucl. Fusion)
- A.D. Haschick, P.C. Crane, P.E. Greenfield, B.F. Burke, and W.A. Baan, High Resolution Observations of the Neutral Hydrogen Absorption and Radio Continuum Emission of the Radio Source 3C178 (Astrophys. J.)
- H.A. Haus, Theory of Modelocking (Japanese J. Appl. Phys.)
- H.A. Haus, Modelocking of Semiconductor Lasers (Japanese J. Appl. Phys.)

JOURNAL PAPERS ACCEPTED FOR PUBLICATION (continued)

- H.A. Haus, Spontaneous Emission Noise in Laser Diodes (Japanese J. Appl. Phys.)
- H.A. Haus, Proposed New Components for Integrated Optics (Japanese J. Appl. Phys.)
- H.A. Haus, S.T. Kirsch, K. Mathyssek, and F.J. Leonberger, Picosecond Optical Sampling (IEEE Trans. (QE))
- H.A. Haus, Theory of Modelocking of Laser Diode in External Resonator (J. Appl. Phys.)
- P.T.P. Ho and A.H. Barrett, Observations of Herbig-Haro Objects and Their Surrounding Dark Clouds (Astrophys. J.)
- A.J.M. Houtsma, N.I. Durlach, and L.D. Braida, Intensity Perception. XI. Experimental Results on the Relation of Intensity Resolution to Loudness Matching (J. Acoust. Soc. Am.)
- V.B. Krapchev and A.K. Ram, Adiabatic Theory for a Single Nonlinear Wave in a Vlasov Plasma (Phys. Rev. A)
- R.B. Laughlin, J.D. Joannopoulos, and D.J. Chadi, Theory of the Electronic Structure of the Si-SiO₂ Interface (Phys. Rev. B.)
- D.H. Lee and J.D. Joannopoulos, Surface States at Unrelaxed ZnO (10 $\bar{1}$ 0) (J. Vac. Sci. Technol.)
- P.C. Myers, A.H. Barrett, and N.L. Sadowsky, Microwave Thermography of Normal and Cancerous Breast Tissue (Ann. New York Acad. Sci.)
- P.C. Myers and R.B. Buxton, Observations of H₂CO in the Orion Nebula at $\lambda \sim 1$ cm (Astrophys. J.)
- E.A. Newman, Current Source-Density Analysis of the b-Wave of the Frog Retina (J. Neurophysiol.)
- A.V. Oppenheim, G.V. Frisk, and D.R. Martinez, Computation of the Hankel Transform Using Projections (J. Acoust. Soc. Am.)
- M.J. Reid, A.D. Haschick, B.F. Burke, J.M. Moran, K.J. Johnston, and G.W. Swenson, The Structure of Interstellar Hydroxyl Masers: VLBI Synthesis Observations of W3(OH) (Astrophys. J.)
- A. Reiman, Decay of a Lower Hybrid Wave to Two Lower Hybrid Waves (Phys. Fluids)
- M.H. Schneps, P.T.P. Ho, and A.H. Barrett, The Formation of Elephant-Trunk Globules in the Rosette Nebula: CO Observations (Astrophys. J.)

JOURNAL PAPERS ACCEPTED FOR PUBLICATION (continued)

- M. Shao and D.H. Staelin, First Fringe Measurements with a Phase Tracking Stellar Interferometer (Appl. Opt.)
- K.N. Stevens, Acoustic Correlates of Some Phonetic Categories (J. Acoust. Soc. Am.)
- L. Tsang and J.A. Kong, Thermal Microwave Emission from a Three Layer Random Medium with Three-Dimensional Variations (IEEE Trans. (Geosci. Electron.))
- L. Tsang and J.A. Kong, Multiple Scattering of Electromagnetic Waves by Random Distributions of Discrete Scatterers with Coherent Potential and Quantum Mechanical Formalism (J. Appl. Phys.)
- E. Villalon and A. Bers, A Study of Quasimode Parametric Excitations in Lower-Hybrid Heating of Tokamak Plasmas (Nucl. Fusion)
- R. Walkup, A. Spielfiedel, W.D. Phillips, and D.E. Pritchard, Lineshape Charges Due to Optical Pumping of Na in Buffer Gas (Phys. Rev. A)
- Y-M. Wang and J.D. Joannopoulos, The Ga Core Exciton at Unrelaxed GaAs (110) (J. Vac. Sci. Technol.)
- M.A. Zuniga and J.A. Kong, Modified Radiative Transfer Theory for a Two-Layer Random Medium (J. Appl. Phys.)
- M. Zuniga, J.A. Kong, and L. Tsang, Depolarization Effects in the Active Remote Sensing of Random Media (J. Appl. Phys.)

LETTERS TO THE EDITOR PUBLISHED

- C.L. Bennett, C.R. Lawrence, and B.F. Burke, A Search for Neutral Hydrogen Absorption in the Double Quasar 0957 + 561 (Nature 283, 175-176 (1980))
- T.A. Brunner, N. Smith, and D.E. Pritchard, New Experimental Evidence for the Energy Corrected Sudden Scaling Law (Chem. Phys. Lett. 71, 358-362 (1980))
- B. Coppi, A. Ferreira, and J.J. Ramos, Self-Healing of Confined Plasmas with Finite Pressure (Phys. Rev. Lett. 44, 990-993 (1980))
- T.W. Ducas, W.P. Spencer, A.G. Vaidyanathan, W.H. Hamilton, and D. Kleppner, Detection of Far Infrared Radiation Using Rydberg Atoms (Appl. Phys. Lett. 35, 382-384 (1979))
- C.M. Gee and M. Kastner, Intrinsic Defect Photoluminescence in Amorphous SiO₂ (Phys. Rev. Lett. 42, 1765-1769 (1979))
- L.A. Glasser, CW Modelocking of a GaInAsP Diode Laser (Electron. Lett. 14, 725-726 (1978))
- R.P. Hackel and S. Ezekiel, Observation of Sub-Natural Line Widths Using Two-Step Resonant Scattering in I₂ Vapor (Phys. Rev. Lett. 42, 1736-1739 (1979))
- E.J. Mele and J.D. Joannopoulos, Surface-Barrier Formation for Al Chemisorbed on GaAs (110) (Phys. Rev. Lett. 42, 1094-1097 (1979))
- P.C. Myers, P.T.P. Ho, and P.J. Benson, Observations of HC₅N and NH₃ in Taurus (Astrophys. J. 233, L141-L145 (1979))
- S.R. Rotman, C.B. Roxlo, D. Beelaar, and M.M. Salour, Pulsewidth Stabilization of a Synchronously Pumped Mode-Locked Dye Laser (Appl. Phys. Lett. 36, 886-888 (1980))
- N. Smith, T.A. Brunner, A.W. Karp, and D.E. Pritchard, Velocity Dependence of Rotational Energy Transfer Rates on Na₂^{*}-Xe (Phys. Rev. Lett. 43, 693-697 (1979))
- P.W. Stephens, P. Heiney, R.J. Birgeneau, and P.M. Horn, X-Ray Scattering Study of the Commensurate-Incommensurate Transition of Monolayer Krypton on Graphite (Phys. Rev. Lett. 43, 47-51 (1979))
- E.L. Wright, D.A. Harper, R.H. Hildebrand, J. Keene, and S.E. Whitcomb, Millimeter and Submillimeter Measurements of the Crab Nebula (Nature 279, 703-704 (1979))

LETTERS TO THE EDITOR ACCEPTED FOR PUBLICATION

- J.H. Shapiro, On the Near-Optimum Binary Coherent-State Receiver (IEEE Trans. (IT) (Correspondence))
- J.H. Shapiro, Optical Waveguide Tap with Infinitesimal Insertion Loss (Optics Lett.)
- E.L. Wright, D.A. Harper, R.F. Loewenstein, J. Keene, and S.E. Whitcomb, Search for Far-Infrared Emission from Young Supernova Remnants (Astrophys. J. Lett.)

SPECIAL PUBLICATIONS

- M.A. Bush, The Effects of Vowel Height on Fundamental Frequency Control in the Speech of Profoundly Deaf Boys, in J.J. Wolf and D.H. Klatt (Eds.), Speech Communication Papers Presented at the 97th Meeting of the Acoustical Society of America (American Institute of Physics, New York, 1979), pp. 281-284
- R. Carlson, B. Granstrom, and D. Klatt, Vowel Perception: The Relative Perceptual Salience of Selected Acoustic Manipulations, in J.J. Wolf and D.H. Klatt (Eds.), Speech Communication Papers Presented at the 97th Meeting of the Acoustical Society of America (American Institute of Physics, New York, 1979), pp. 9-14
- M. Clements, D. Mook, N. Durlach, and L. Braida, Experiments with Optacon-Based Speech Display, in J.J. Wolf and D.H. Klatt (Eds.), Speech Communication Papers Presented at the 97th Meeting of the Acoustical Society of America (American Institute of Physics, New York, 1979), pp. 619-621
- R.A. Cole, A.I. Rudnicky, and V. Zue, Performance of an Expert Spectrogram Reader, in J.J. Wolf and D.H. Klatt (Eds.), Speech Communication Papers Presented at the 97th Meeting of the Acoustical Society of America (American Institute of Physics, New York, 1979), pp. 349-350
- W.E. Cooper, Syntactic-to-Phonetic Coding, in B. Butterworth (Ed.), Language Production (Academic Press, New York, 1978), pp. 297-333
- S. DeGennaro, The Effect of Syllabic Compression on Speech Intelligibility for Normal Listeners with Simulated Sensorineural Hearing Loss, in J.J. Wolf and D.H. Klatt (Eds.), Speech Communication Papers Presented at the 97th Meeting of the Acoustical Society of America (American Institute of Physics, New York, 1979), pp. 611-614

SPECIAL PUBLICATIONS (continued)

- M. Florentine, C.M. Reed, N.I. Durlach, and L.D. Braida, Intensity Discrimination and Loudness Matches in Subjects with Sensorineural Hearing Loss, in J.J. Wolf and D.H. Klatt (Eds.), Speech Communication Papers Presented at the 97th Meeting of the Acoustical Society of America (American Institute of Physics, New York, 1979), pp. 575-578
- M. Florentine, C.L. Thompson, H.S. Colburn, and N.I. Durlach, Psychoacoustical Studies of a Patient with a Vestibular Schwannoma, in J.J. Wolf and D.H. Klatt (Eds.), Speech Communication Papers Presented at the 97th Meeting of the Acoustical Society of America (American Institute of Physics, New York, 1979), pp. 579-582
- H.L. Golub, A Physioacoustic Model of the Infant Cry and Its Use for Medical Diagnosis and Prognosis, in J.J. Wolf and D.H. Klatt (Eds.), Speech Communication Papers Presented at the 97th Meeting of the Acoustical Society of America (American Institute of Physics, New York, 1979), pp. 143-147
- Ursula G. Goldstein, Modelling Children's Vocal Tracts, in J.J. Wolf and D.H. Klatt (Eds.), Speech Communication Papers Presented at the 97th Meeting of the Acoustical Society of America (American Institute of Physics, New York, 1979), pp. 139-142
- R.P. Hackel and S. Ezekiel, Interaction of Two Resonant Laser Fields with a Folded Doppler Broadened System of I_2 , in H. Walther and K.W. Rothe (Eds.), Laser Spectroscopy IV (Springer-Verlag, Berlin, Heidelberg, New York, 1979), pp. 88-95
- M. Halle, Fonetica, in Encyclopedia Einaudi (Editrice Einaudi, Torino, Italy, 1979), pp. 288-313
- M. Halle and K.N. Stevens, Some Reflections on the Theoretical Bases of Phonetics, in B. Lindblom and S. Ohman (Eds.), Frontiers of Speech Communication Research (Academic Press, New York, 1979), pp. 335-349
- J. Jakimik, Word Recognition and the Lexicon, in J.J. Wolf and D.H. Klatt (Eds.), Speech Communication Papers Presented at the 97th Meeting of the Acoustical Society of America (American Institute of Physics, New York, 1979), pp.407-410
- D.H. Klatt, Speech Perception: A Model of Acoustic-Phonetic Analysis and Lexical Access, in R.A. Cole (Ed.), Perception and Production of Fluent Speech (Lawrence Erlbaum Associates, Hillsdale, New Jersey, 1980), pp. 243-288
- D. Klatt, Stop Consonant Perception: A Comparison of Several Perceptual Theories, in J.J. Wolf and D.H. Klatt (Eds.), Speech Communication Papers Presented at the 97th Meeting of the Acoustical Society of America (American Institute of Physics, New York, 1979), pp. 345-348

SPECIAL PUBLICATIONS (continued)

- J.S. Lim and H. Nawab, Restoration of Speckle Images (Technical Note 1979-52, Lincoln Laboratory, M.I.T., 3 July 1979), pp. 1-31
- J.S. Lim and A.V. Oppenheim, Enhancement and Bandwidth Compression of Noisy Speech (Technical Note 1979-51, Lincoln Laboratory, M.I.T., 26 June 1979), pp. 1-88
- P. Menyuk and L. Menn, Early Strategies for the Perception and Production of Words and Sounds, in P. Fletcher and M. Garman (Eds.), Language Acquisition (Cambridge University Press, London, 1979), pp. 49-70
- D. Mook, Sound Transmission in Acoustic Tubes: Exact and Approximate Solutions, in J.J. Wolf and D.H. Klatt (Eds.), Speech Communication Papers Presented at the 97th Meeting of the Acoustical Society of America (American Institute of Physics, New York, 1979), pp. 631-634
- R.N. Ohde and D.J. Sharf, The Effects of Number of Repetitions and Intensity Level of Adaptors Varying in VOT on Verbal Transformations, in J.J. Wolf and D.H. Klatt (Eds.), Speech Communication Papers Presented at the 97th Meeting of the Acoustical Society of America (American Institute of Physics, New York, 1979), pp. 463-467
- J.S. Perkell, Phonetic Features and the Physiology of Speech Production, in B. Butterworth (Ed.), Language Production (Academic Press, New York, 1979), pp. 337-372
- J.S. Perkell, On the Nature of Distinctive Features: Implications of a Preliminary Vowel Production Study, in B. Lindblom and S. Ohman (Eds.), Frontiers of Speech Communication Research (Academic Press, New York, 1979), pp. 365-380
- J.S. Perkell, S.E. Boyce, and K.N. Stevens, Articulatory and Acoustic Correlates of the [s-ʃ] Distinction, in J.J. Wolf and D.H. Klatt (Eds.), Speech Communication Papers Presented at the 97th Meeting of the Acoustical Society of America (American Institute of Physics, New York, 1979), pp. 109-113
- D.B. Pisoni, T.D. Carrell, and S.S. Simnick, Does a Listener Need to Recover the Dynamic Vocal Tract Gestures of a Talker to Recognize His Vowels?, in J.J. Wolf and D.H. Klatt (Eds.), Speech Communication Papers Presented at the 97th Meeting of the Acoustical Society of America (American Institute of Physics, New York, 1979), pp. 19-23
- J.M. Sorensen and W.E. Cooper, Syntactic Coding of Fundamental Frequency in Speech Production, in R.A. Cole (Ed.), Perception and Production of Fluent Speech (Lawrence Erlbaum Associates, Hillsdale, New Jersey, 1980), pp. 399-440
- K.N. Stevens, Property-Detecting Mechanisms and Eclectic Processors, in R.A. Cole (Ed.), Perception and Production of Fluent Speech (Lawrence Erlbaum Associates, Hillsdale, New Jersey, 1980), pp. 103-112

SPECIAL PUBLICATIONS (continued)

- K.N. Stevens, The Speech Signal, in J.F. Kavanagh and W. Strange (Eds.), Speech and Language in the Laboratory, School, and Clinic (M.I.T. Press, Cambridge, MA, 1978), pp. 3-37
- V. Zue and R.A. Cole, The Use of Context During Spectrogram Reading, in J.J. Wolf and D.H. Klatt (Eds.), Speech Communication Papers Presented at the 97th Meeting of the Acoustical Society of America (American Institute of Physics, New York, 1979), pp. 351-353

TECHNICAL REPORTS PUBLISHED

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