

27. Publications and Reports

27.1 Meeting Papers Presented

157th Meeting, American Astronomical Society, Albuquerque, New Mexico
January 11-14, 1981

Abstracts in Bull. Am. Astron. Soc. 12 (1980)

B. F. Burke, P. E. Greenfield, and D. H. Roberts, Linear Polarization Measurements of Radio Radiation from the Double Quasar 0957 + 561 (p. 821)

P. E. Greenfield, D. H. Roberts, and B. F. Burke, The Radio Frequency Spectra of the Compact Sources in the Gravitational Multiple Image Quasar 0957 + 561 (p. 821)

S. Odenwald, G. G. Fazio and E. L. Wright, A High-Resolution, Far-Infrared Map of the Galactic Center (p. 860)

D. H. Roberts, A. E. E. Rogers, B. R. Allen, C. L. Bennett, B. F. Burke, and T. A. Clark, Detection of the 18 May 1980 Explosion of Mt. St. Helens by Very Long Baseline Interferometry (p. 814)

National Radio Science Meeting, Boulder, Colorado
January 12-16, 1981

J. A. Kong, R. T. Shin, F. J. Vallese, S. L. Chuang, and L. Tsang, Theory and Application for Microwave Remote Sensing of Earth

R. T. Shin, S. L. Chuang, and J. A. Kong, Radiative Transfer Theory for Thermal Microwave Emission from an Inhomogeneous Medium with Rough Surfaces

Second Caltech Conference on Very Large Scale Integration, Pasadena, California
January 19-21, 1981

Papers in Proceedings

L. Seiler, Special Purpose Hardware for Design Rule Checking

Fourth Topical Conference on Radio Frequency Plasma Heating, Austin, Texas
February 9-10, 1981

Abstracts in Proceedings

A. Bers, L. P. Harten, and A. Ram, Antenna-Plasma Coupling Theory for ICRF Heating of Large Tokamaks (paper A16-1 - A16-4)

P. T. Bonoli, Lower Hybrid Wave Propagation in Tokamaks (paper C1-1 - C1-4)

R. C. Englade, Simulation of Lower Heating and RF Current Generation in Toroidal Geometry (paper C14-1 - C14-4)

V. Fuchs, K. Ko, and A. Bers, The Coupling Approximation of Local Dispersion Relations (paper D14-1 D14-4)

L. P. Harten, A. Bers, V. Fuchs, and M. M. Shoucri, RF- Driven Tokamak Reactor with Sub-Ignited Thermally Stable Operation (paper B17-1 - B17-4)

S. Knowlton, K. I. Chen, S. C. Luckhardt, F. S. McDermott, and M. Porkolab, Lower-Hybrid Ion Heating Experiments on the Versator II Tokamak (paper C11-1 - C11-4)

K. Ko, A. Bers, and V. Fuchs, LH Wave Absorption by Mode Conversion Near Ion Cyclotron Harmonics (paper C17-1 - C17-4)

K. Ko and V. Krapchev, Nonlinear Steady-State Coupling of LH Waves (paper C19-1 - C19-4)

J. S. Levine, M. E. Read, B. Hui, V. L. Granatstein, K. E. Hackett, F. S. McDermott, and G. Bekefi, Electron-Cyclotron Heating of the Versator II Tokamak (paper D6-1 - D6-4)

S.C. Luckhardt, M. Porkolab, K.I. Chen, and S.F. Knowlton, Lower-Hybrid Current Drive Experiments on Versator II (paper B6-1 -B6-4)

A. K. Ram and V. B. Krapchev, Fokker-Planck Study of Steady- State Current Generation by a LH Wave (paper B5-1 - B5-4)

J. J. Schuss, M. Porkolab, and T. M. Antonsen, Quasilinear Theory Calculation of Ion Tails and Neutron Rates During Lower Hybrid Heating in Alcator A (paper C5-1 - C5-4)

K. Theilhaber and A. Bers, Nonlinear Coupling and Propagation of Lower Hybrid Waves (paper C18-1 - C18-4)

1981 IEEE International Symposium on Information Theory, Santa Monica, California
February 9-12, 1981

J. H. Shapiro, Linear vs. Logarithmic Frame - Integration for Coherent Radars

SPIE Technical Symposium, North Hollywood, California
February 9-13, 1981

Papers in SPIE Proceedings, Vol. 269

H. A. Haus, S. T. Kirsch, K. Mathyssek, and F. J. Leonberger, Picosecond Optical Sampling (pp. 55-59)

Symposium über Microstrucktureforschung, Institut für Halbleitertechnik, Aachen, Federal Republic of Germany
March 5-6, 1981

H. I. Smith, Submicrometer Structures Technology

International School on Unconventional Approaches to Fusion, Erice (Trapani), Italy
March 15-25, 1981

S. Atzeni, B. Coppi, and G. Rubinacci, Ignition Experiments with Advanced Fusion Fuels (invited lecture)

1981 IEEE International Conference on Acoustics, Speech and Signal Processing, Atlanta, Georgia
March 30 - April 1, 1981

Papers in ICASSP '81 Proceedings

S. DeGennaro, K. R. Krieg, L. D. Braida, and N. I. Durlach, Third-Octave Analysis of Multichannel Amplitude Compressed Speech (pp. 125-128)

B. L. Hicks, L. D. Braida, and N. I. Durlach, Pitch Invariant Frequency Lowering with Nonuniform Spectral Compression (pp. 121-124)

S. W. Lang, G. L. Duckworth, and J. H. McClellan, Array Design for MEM and MLM Array Processing (pp. 145-148)

J. S. Lim and N. A. Malik, A New Algorithm for One-dimensional and Two-dimensional Maximum Entropy Power Spectrum Estimation (pp. 1000-1005)

H. Nawab, A. V. Oppenheim, and J. S. Lim, Improve Spectral Subtraction for Signal Restoration (pp. 1105-1108)

AGARD Conference, Naval Postgraduate School, Monterey, California
April 6-9, 1981

J. H. Shapiro, Line-of-Sight Optical Communication Through Low-Visibility Weather (paper 27:1-27:9)

J. H. Shapiro, How to Tap a Fiber-Optic Link and Elude Detection - What's New in Quantum Communication (paper 40:1-40:5)

Electro/81 Meeting, New York, New York

April 7-9, 1981

J. Allen, Tutorial Introduction to Speech Processing Technology

1981 Sherwood Meeting, Annual Controlled Fusion Theory Conference, Austin, Texas

April 8-10, 1981

Abstracts in Proceedings

R. H. Berman, D. J. Tetreault, T. H. Dupree, and T. Boutros-Ghali, Computer Simulation of Non-Linear Ion-Electron Instability (p. 1C26)

G. Bertin, Effects of Local Current Gradients on Magnetic Reconnection (p. 3B40)

T. Boutros-Ghali and T. H. Dupree, Theory of Non-Linear Ion-Electron Instability (p. 2C42)

B. Chike-Obi and B. Coppi, Collisionless Reconnection with Parallel Electron Drift (p. 1C36)

B. Coppi, Near-Term Feasibility of Advanced Fuel Fusion Reactors (p. 3A4)

G. B. Crew, J. J. Ramos, and L. Sugiyama, Internal Kink and Collisionless Magnetic Reconnection in Finite-Beta Toroidal Plasmas (p. 1B35)

R. Englade, B. Coppi, and P. T. Bonoli, Transport Code Simulations of Lower Hybrid Heating in Alcator C Using a Modified Electron Thermal Diffusion Coefficient (p.2B9)

V. Fuchs, M. M. Shoucri, L. Harten, and A. Bers, Analysis of Heating and Thermal Stability near Ignition (p. 3B6)

K. Ko, Nonlinear Steady-State Coupling of LH Waves by a Waveguide Array (p. 2B31)

B. Lane and T. M. Antonsen, Jr., Low Frequency Electromagnetic Trapped Particle Modes in a Toroidal Plasma (p. 2C12)

F. Pegoraro, Magnetic Noise in an Igniting Plasma (p. 2B11)

A. K. Ram, V. B. Krapchev, and A. Bers, ICRF Heating by Ion Orbit Parametric Resonance (p. 2C34)

N. Sharky and B. Coppi, Analysis of the Density Profiles in Various Experiments (p. 3B32)

N. Sharky and B. Coppi, Scaling of the Electron Energy Confinement Time (p. 2C39)

K. Theilhaber, Nonlinear Coupling of Lower Hybrid Waves (p. 2B34)

1981 Spring Meeting, American Physical Society, Baltimore, Maryland
April 20-23, 1981

Abstracts in Bull. Am. Phys. Soc. 26 (1981)

D. H. Roberts, The Gravitationally Imaged Double Quasar (p. 528)

Society for Information Display International Symposium, New York, New York
April 28-30, 1981

D. E. Troxel, Application of Pseudorandom Noise to DPCM

**Workshop on the Interaction of Laser Radiation with Surfaces for Application to
Microelectronics, M.I.T., Cambridge, Massachusetts**
May 4-5, 1981

H. I. Smith, Review of Conventional Submicrometer Fabrication Techniques

Wenner-Gren Symposium on Speech Motor Control, Stockholm, Sweden
May 11-12, 1981

Papers in Wenner-Gren Symposium Series, Vol. 36 (Pergamon Press)

J. S. Perkell and W. L. Nelson, Articulatory Targets and Speech Motor Control: A Study of
Vowel Production (pp. 187-204)

Workshop on: "The Phase of the Interstellar Medium," Green Bank, West Virginia
May 11-13, 1981

P. Myers, The Cloud Structure of the Interstellar Medium (invited paper)

1981 IEEE International Conference on Plasma Science, Santa Fe, New Mexico
May 18-20, 1981

Abstracts in Conference Record

B. Coppi, Fusion Reactor Technology

K. D. Jacobs and G. Bekefi, Numerical Simulation of Electron Ballistics in Combined Magnetic Wiggler and Guiding Fields (p. 47)

S. C. Luckhardt, M. Porkolab, K. I. Chen, and S. F. Knowlton, Lower-Hybrid Current Drive Experiments on Versator II (p. 159)

A. Palevsky and G. Bekefi, An Inverted Multiresonator (N = 6,8) Relativistic Magnetron (p. 49)

A. Palevsky, G. Bekefi, and A. T. Drobot, Relativistic Magnetrons (invited paper) (p. 122)

M. Porkolab, RF Current Drive in Fusion Plasma (invited paper) (p. 31)

R. E. Shefer, K. D. Jacobs, and G. Bekefi, Cyclotron Emission from an Intense Relativistic Electron Beam Enhanced by a Rippled Magnetic Field (p. 9)

101st Meeting, Acoustical Society of America, Ottawa, Canada

May 18-22, 1981

Abstracts in J. Acoust. Soc. Am., Vol. 69, Suppl. No. 1, Spring 1981

D. K. Bustamante, S. DeGennaro, L. D. Braida, and N. I. Durlach, The Effect of Compression Limiting on the Speech Intelligibility of Sensorineural Hearing Impaired Listeners (p. S121)

S. DeGennaro, L. D. Braida, and N. I. Durlach, A Statistical Analysis of Third-Octave Speech Amplitude Distributions (p. S16)

B. Delgutte, Coding of Some Consonantal Features in the Auditory Nerve (p. S54)

K. J. Gabriel, Sequential Estimation of Percent Correct (p. S66)

K. J. Gabriel and H. S. Colburn, Binaural Hearing with a Bilateral, High-Frequency Loss (p. S64)

W. F. Ganong and P. A. Keating, Selective Adaptation of VOT in Polish (p. S115)

A. J. M. Houtsma, Relation Between Tone, Pitch, Harmony and Consonance (invited paper) (p. S103)

A. J. M. Houtsma, Noise-Induced Shifts in the Pitch of Pure and Complex Tones (p. S119)

J. Jakimik and S. Hunnicut, Organizing the Lexicon for Recognition (p. S41)

D. H. Klatt, Modeling the Perception of Familiar Words: Lexical Access Directly from Spectra (p. S31)

D. H. Klatt, Synthesis by Rule of a Female Voice (p. S83)

- T. J. Lynch and W. T. Peake, Measurements and Models of Cat Middle-Ear Mechanics (p. S43)
- P. Milner, L. D. Braida, and N. I. Durlach, Perception of Filtered Speech by Hearing-Impaired Listeners and by Normal-Hearing Listeners with Simulated Hearing Loss (p. S121)
- J. S. Perkell and W. L. Nelson, Precision of Articulatory Targets for the Vowels /i/ and /a/: An Examination of X-ray Microbeam Data (p. S57)
- W. M. Rabinowitz, Acoustic-Reflex Effects on Middle-Ear Performance (p. S44)
- J. J. Rosowski, T. J. Lynch III, and W. T. Peake, Middle-Ear Mechanics: Comparison of Cat and Alligator Lizard (p. S14)
- S. Seneff, D. Klatt, and V. Zue, Design Considerations for Optimizing the Intelligibility of a DFT-Based, Pitch-Excited, Critical-Band-Spectrum Speech Analysis/Resynthesis System (p. S17)
- R. A. Siegel, Perspectives on Additive Internal Noise (p. S23)
- C. S. Song and J. S. Perkell, A Syllabic Component of Speech Motor Control? (p. S56)
- K. N. Stevens, Invariant Acoustic Correlates of Phonetic Features and Their Potential Role in Speech Perception (p. S31)
- K. N. Stevens, Evidence for the Role of Acoustic Boundaries in the Perception of Speech Sounds (p. S116)
- R. M. Uchanski, L. D. Braida, and N. I. Durlach, Variability of Interaural Loudness Comparisons (p. S104)
- G. P. Widin and H. S. Colburn, Discrimination of Duration at Detection Threshold (p. S65)

16th Symposium on Electron, Ion, and Photon Beam Technology, Dallas, Texas

May 26-29, 1981

- N. N. Efremow, N. P. Economou, K. Bezdjian, S. S. Dana, and H. I. Smith, A Simple Technique for Modifying the Profile of Resist Exposed by Holographic Lithography
- A. M. Hawryluk, N. M. Ceglio, R. H. Price, J. Melngailis, and H. I. Smith, Gold Transmission Gratings with Submicrometer and Thicknesses $>0.5\mu\text{m}$
- C. M. Horwitz and J. Melngailis, Reactive Sputter Etching of Si, SiO_2 , Cr, and Al with Gas Mixtures Based on CF_4 , Cl_2 and ClCl_4
- N. Tsumita, J. Melngailis, A. M. Hawryluk, and H. I. Smith, Fabrication of X-ray Masks Using Anisotropic Etching of (110) Si and Shadowing Techniques

1981 Picture Coding Symposium, McGill University, Montreal, Canada
June 3-5, 1981

Papers in Summaries of Presentations

W. F. Schreiber and R. R. Buckley, Adaptively Companded Two Channel Picture Coding System (pp. 44-45)

D. E. Troxel, Application of Pseudorandom Noise to DPCM (pp. 46-47)

1981 International Geosciences and Remote Sensing Symposium, Washington, D.C.
June 8-10, 1981

Abstracts in Digest

S. L. Chuang and J. A. Kong, Remote Sensing of Dielectric Media with Periodic Rough Surfaces (Vol. II, pp. 1274-1279)

P. W. Rosenkranz, Remote Sensing of Wind Intensity in Tropical Storms with the Nimbus-7 Scanning Multichannel Microwave Radiometer (Vol. I, p. 348)

D. H. Staelin, Passive Microwave Remote Sensing for Meteorology (Vol. I, pp. 158-162)

F. Vallese and J. A. Kong, Correlation Function Studies for Microwave Remote Sensing of Snow and Ice (Vol. I, pp. 685-690)

M. A. Zuniga and J. A. Kong, Mean Dyadic Green's Function for Remote Sensing of a Two Layer Random Medium (Vol. I, pp. 691-695)

Topical Conference on Low Energy X-ray Diagnostics, Monterey, California
June 8-10, 1981

Papers in Proceedings

H. I. Smith, Fabrication of Diffractive Optical Elements for X-ray Diagnostics (pp. 223-224)

Conference on "Amplification for the Hearing Impaired," Nashville, Tennessee
June 8-10, 1981

J. S. Lim, Signal Processing for Speech Enhancement

Conference on Laser Engineering and Applications, Washington, D.C.
June 9-11, 1981

J. G. Fujimoto, T. K. Yee, and M. M. Salour, Application of Synchronously Scanned Electron-Optical Streak Camera to Extremely Weak Picosecond Events in Solids

C. B. Roxlo and M. M. Salour, Optically Pumped Picosecond Semiconductor Lasers

1981 International IEEE MTT-S and AP-S Symposium and National Radio Science Meeting, Los Angeles, California
June 15-19, 1981

W. C. Chew and J. A. Kong, Asymptotic Eigenoquations for the Dispersion Characteristics of Open, Wide Microstrip Line

J. A. Kong, R. T. Shin, F. J. Vallese, S. L. Chuang, and J. K. Lee, Random Medium Model for Microwave Remote Sensing of Earth Terrain

R. T. Shin, S. L. Chuang, and J. A. Kong, Radiative Transfer Theory for Microwave Remote Sensing of an Inhomogeneous Medium with Rough Surfaces

Gordon Research Conference on Plasma Physics, Ventura, California
June 21-26, 1981

S. Luckhardt, Lower-Hybrid Current Drive Experiments on Versator II

IEEE Eighteenth Design Automation Conference, Nashville, Tennessee
June 29 - July 1, 1981

Papers in Proceedings

L. A. Glasser, The Analog Behavior of Digital Integrated Circuits (paper 30.1, pp. 603-612)

Fifth International Conference on Laser Spectroscopy, Alberta, Canada
June 29 - July 3, 1981

Papers in A. R. W. McKeller, T. Oka, and B. P. Stoicheff (Eds.), Laser Spectroscopy V (Springer-Verlag, Berlin, New York, 1981)

D. Kleppner, Turning Off the Vacuum (pp. 292-293)

B. W. Peuse, R. E. Tench, P. R. Hemmer, J. E. Thomas, and S. Ezekiel, Precision Studies in 3-Level Systems (pp. 251-254)

D. Pritchard and B. Walkup, Dressed Atom Approach to Line Broadening (pp. 197-203)

M. M. Salour, Optically Pumped Semiconductor Platelet Lasers (pp. 469-473)

4th International Topical Conference on High-Power Electron and Ion- Beam Research and Technology, Palaiseau, France

June 29 - July 3, 1981

Papers in Proceedings

M. Gazaix, H. J. Doucet, B. Etlicher, A. Bers, K. Felch, G. Anastaze, and L. Vallier, Interaction Between a Thin Polyethylene Target and a Relativistic Electron Beam (Vol. I, pp. 473-480)

A. Palevsky, G. Bekefi, A. Drobot, A. Mondelli, G. Craig, K. Eppley, M. Black, M. Bollen, and R. Parker, High-Power Magnetron Experiments and Numerical Simulation (Vol. II, pp. 861-868)

Fifth International Conference on Vapor and Epitaxy and Fifth American Conference on Crystal Growth, Coronado, California

July 19-24, 1981

S. S. Dana and H. I. Smith, Studies of Graphoepitaxy by CVD and Solution Growth

XXth General Assembly of the International Union of Radio Science, Washington, D.C.

August 10-19, 1981

Abstracts in Proceedings

A. Bers, Symbolic Manipulation of Equations Related to Plasma Waves (p. 306)

1st Acoustics, Speech and Signal Processing Workshop on Spectral Estimation, McMaster University, Hamilton, Ontario, Canada

August 17-18, 1981

Papers in Proceedings

S. W. Lang and J. H. McClellan, Spectral Estimation for Sensory Arrays (pp. 3.2.1-3.2.7)

N. A. Malik and J. S. Lim, Some Properties of 2-D Maximum Entropy Power Spectrum Estimation (pp. 3.3.1-3.3.3)

J. H. McClellan, Multi-Dimensional Spectral Estimation (pp. 3.1.1-3.1.10)

VLSI '81 International Conference, University of Edinburgh, United Kingdom
August 18-21, 1981

J. Allen, A Perspective on Silicon Compilation

AIAA Guidance and Control Conference, Albuquerque, New Mexico
August 19-21, 1981

Papers in Proceedings

J. H. Lang, Experiments on the Electrostatic Control of a Flexible Membrane and Their Relation to Membrane-Antenna Figure Control (pp. 187-191)

Second International Symposium on Computer-Aided Seismic Analysis and Discrimination, Southeastern Massachusetts University, North Dartmouth, Massachusetts
August 19-21, 1981

Papers in Proceedings

F. U. Dowla and J. H. McClellan, MEM Spectral Analysis for Nonuniformly Sampled Signals (pp. 79-85)

Y. T. Li and A. L. Kurkjian, Arrival Time Estimation Using Iterative Signal Reconstruction from the Phase of the Cross-Spectrum (pp. 87-91)

J. S. Lim and N. A. Malik, Minicomputer Implementation of an Iterative 2-D Maximum Entropy Power Spectrum Estimation Algorithm (pp. 153-155)

SPIE 25th International Symposium, San Diego, California
August 24-28, 1981

Papers in Proceedings

D. M. Papurt, J. H. Shapiro, and R. C. Harney, Atmospheric Propagation Effects on Coherent Laser Radars (Vol. 300, pp. 86-99)

D. E. Troxel, W. F. Schreiber, N. J. Burzinski, and M. D. Matson, Interactive Enhancement of Tone Scale (Vol. 301, pp. 147-153)

NFS Workshop on Digital Signal Processing, La Spezia, Italy
August 27-29, 1981

Papers in Proceedings

S. W. Lang and J. H. McClellan, MEM Spectral Estimation for Sensor Arrays (pp. 114-121)

A. V. Oppenheim, Signal Reconstruction from Fourier Transform Phase or Magnitude (pp. 131-145)

International Conference on Digital Signal Processing, Florence, Italy

September 2-5, 1981

Papers in Proceedings

S. W. Lang and J. H. McClellan, MEM Spectral Estimation for Sensor Arrays (pp. 383-390)

A. V. Oppenheim, Signal Reconstruction from Fourier Transform Phase or Magnitude

Workshop on All-Optical Processing Elements in Integrated Optics, London, England

September 17-18, 1981

H. A. Haus and A. Lattes, Optical Logic Gates and Possible Applications

AGARD Conference, Brussels, Belgium

September 21-25, 1981

Papers in Conference Proceedings No. 305

J. A. Kong, W. C. Chew, and T. M. Habashy, Electromagnetic Fields of Dipole Antennas in the Presence of Layered Media (pp. 40.1-40.9)

23rd Annual Meeting of the Division of Plasma Physics, American Physical Society, New York, New York

October 12-16, 1981

Abstracts in Bull. Am. Phys. Soc. 26:7 (1981)

S. Atzeni, B. Coppi, and G. Rubinacci, Experiments on "Burning" of Advanced Fusion Fuels (p. 952)

G. Bekefi and R. E. Shefer, High Current, Multi-Electrode Gun for FEL Applications (p. 908)

R. H. Berman, D. J. Tetreault, T. H. Dupree, and T. Boutros-Ghali, Computer Simulation of Nonlinear Ion-Electron Instability (p. 1060)

- A. Bers, V. Krapchev, K. Ko, and A. K. Ram, Stochasticity at Low Ion-Cyclotron Harmonics (p. 1026)
- P. T. Bonoli, B. Coppi, and R. Englade, Electron Thermal Transport in the Presence of Auxiliary Heating (p. 1003)
- T. Boutros-Ghali and T. H. Dupree, Theory of Non-Linear Ion-Electron Instability (p. 1060)
- T. Chang and B. Coppi, Non-Thermal Ion Distributions in the Superauroral Region (p. 942)
- B. Chike-Obi and B. Coppi, Asymmetries in the Collisionless Reconnecting Mode (p. 852)
- B. Coppi, The Reversed Field Pinch (R.F.P.) as an Efficient α -Particle Container (p. 941)
- B. Coppi and N. Sharky, Non-Existence of "Saturation" of the Electron Energy Confinement Time (p. 952)
- G. B. Crew, J. J. Ramos, and L. Sugiyama, Collisionless $m = 1$ Modes in Toroidal Plasmas (p. 1002)
- T. H. Dupree, Unstable Growth of Phase Space Holes (p. 1060)
- R. Englade, P. T. Bonoli, S. Luckhardt, and M. Porkolab, Simulation of Lower Hybrid Current Generation in Toroidal Geometry (p. 1033)
- A. Ezzedine, Excitation of Quasielectrostatic Modes in a Magnetized Infinite Plasma by a Modulated Hollow Electron Beam (p. 914)
- R. C. Garner, M. E. Mauel, and L. D. Smullin, Ray Tracing in the Constance II Mirror Experiment (p. 893)
- M. J. Greenwald, C. L. Fiore, N. Sharky, and D. P. Schissel, Neutral Particle Contribution to Ion Energy Radial Power Balance (p. 976)
- K. E. Hackett, F. S. McDermott, A. S. Fisher, G. Bekefi, J. S. Levine, M. E. Read, and V. L. Granatstein, Electron Cyclotron Heating on the Versator II Tokamak (p. 1034)
- L. Harten, A. Bers, V. Fuchs, and M. Shoucri, Stable High-Q Operation of Tokamak Reactors (p. 964)
- D. D. Hinshelwood, Plasma Motion in Magnetically Insulated Diodes (p. 853)
- D. Humphreys, R. Englade, B. Lane, and B. Coppi, Fast Evolution of the Central Temperature in Ignited Plasmas (p. 953)
- J. H. Irby, D. S. Furuno, R. E. Klinkowstein, M. E. Mauel, and L. D. Smullin, Thomson Scattering on Constance II (p. 966)

- K. D. Jacobs and G. Bekefi, Numerical Simulation of Electron Ballistics in Combined Magnetic Wiggler and Guiding Fields (p. 908)
- S. Knowlton, K. I. Chen, S. C. Luckhardt, F. S. McDermott, and M. Porkolab, Lower Hybrid Ion Heating Experiments on the Versator II Tokamak (p.1032)
- V. Krapchev, L. Harten, A. Ram, and A. Bers, Stochasticity in a Wave Packet on a Torus (p. 1026)
- S. C. Luckhardt, M. Porkolab, K. I. Chen, A. S. Fisher, S. Knowlton, and M. J. Mayberry, Observation of Lower Hybrid RF Current Drive on Versator II (p. 973)
- M. E. Mauel, J. H. Irby, and L. D. Smullin, Electron Cyclotron Heating in the Constance II Mirror Experiment (p. 893)
- F. S. McDermott, K. E. Hackett, A. S. Fisher, G. Bekefi, M. Porkolab, J. S. Levine, and M. E. Read, Parametric Processes During Electron-Cyclotron Heating (p. 1034)
- W. A. McMullin and G. Bekefi, LOWBITRON A Source of Coherent Electromagnetic Radiation (p. 909)
- A. Palevsky, G. Bekefi, R. A. Close, and I. Mastovsky, An Inverted Multiresonator ($N = 10$) Relativistic Magnetron (p.908)
- F. Pegoraro and B. Coppi, Shear-Alfven Waves with Small Toroidal Mode Numbers (p. 953)
- A. K. Ram, A. Bers, and L. P. Harten, Coupling Theory for Ice Heating of Large Tokamaks (p.930)
- J. J. Ramos, G. B. Crew, and L. Sugiyama, Theory of $m = 1$ Modes in High Temperature Toroidal Plasmas (p. 952)
- K. F. Rettman and L. D. Smullin, A Hot Cathode (LaB_6) Plasma Gun (p. 898)
- N. Sharky, Scaling of the Energy Confinement Time with the Minor Radius in the FT Tokamak (p. 941)
- N. Sharky and B. Coppi, Model for Particle Transport in Steady State and Gas-Injection Experiments (p. 1002)
- R. E. Shefer and G. Bekefi, Cyclotron Emission from Intense Relativistic Electron Beams in Uniform and Rippled Magnetic Fields (p. 846)
- L. Sugiyama and F. Pegoraro, Interaction of Fusion Alpha Particles with Plasma Fluctuations (p. 1003)

Y. Takase, M. Porkolab, and J. Schuss, Parametric Excitation of Ion Sound Quasi-Modes During the Alcator Lower Hybrid Heating Experiments (p. 1032)

K. Theilhaber and A. Bers, Coupling from Waveguide Arrays of Finite Poloidal Extent (p. 1032)

NASA Review of Their Global Weather Program, Goddard Space Flight Center, Greenbelt, Maryland

October 13, 1981

D. H. Staelin, Research on Improved Microwave Retrieval Techniques for Atmospheric Temperatures, Winds, and Humidity

11th Annual Meeting, Society for Neuroscience, Los Angeles, California

October 18-23, 1981

Abstract in Proceedings

E. R. Gruberg, Influence of Optic Nerve and Nucleus Isthmi on Acetylcholinesterase Activity in the Tectum of the Frog Rana pipiens (p. 913)

9th Symposium on Engineering Problems of Fusion Research, Chicago, Illinois

October 26-29, 1981

S. Atzeni, B. Coppi, and G. Rubinacci, Present-Day Technologies and Ignition Experiments for Advanced Fuel Reactions

1981 Annual Meeting, Optical Society of America, Kissimmee, Florida

October 26-30, 1981

Abstracts in Optics News 7:3 (1981)

S. M. Ali, W. C. Chew, and J. A. Kong, Radiation from Printed Conducting Patches on Thin Films with a Grounded Plane (p. 45)

S. L. Chuang and J. A. Kong, Diffraction from Optical Gratings and Surface Plasmon Excitations (p. 45)

102nd Meeting, Acoustical Society of America, Miami Beach, Florida

November 30 - December 4, 1981

Abstracts in J. Acoust. Soc. Am., Vol. 70, Suppl. No. 1, Fall 1981

- H. S. Colburn, Free-Field Measurements on Hearing-Impaired Listeners (p. S29)
- C. L. Farrar, Confidence Ratings in Discrimination of Prosodic Features of Unintelligible Sentences (p. S97)
- M. Florentine, Intensity Discrimination as a Function of Level and Frequency and Its Relation to High-Frequency Hearing (p. S87)
- A. J. M. Houtsma, Pitch Salience of Various Complex Sounds (p. S29)
- D. H. Klatt, Prediction of Perceived Phonetic Distance from Short-Term Spectra - A First Step (p. S59)
- R. N. Ohde and K. N. Stevens, Effect of Burst Amplitude on the Perception of Place of Articulation for Stops (p. S33)
- W. M. Rabinowitz and G. P. Widin, Interaction of Spontaneous Acoustic Emission with External Tones (p. S7)
- C. H. Shadle, The Acoustics of Whistling (p. S12)
- S. Shattuck-Hufnagel, Position Constraints on Segment Exchange Errors in Production and Memory (p. S13)
- T.F. Weiss, W.T. Peake, R. Leong, T. Holton, J.J. Rosowski, and J.R. White, Mechanical and Electrical Mechanisms in the Ear: Alligator Lizard Tales (p. S50)
- V. W. Zue and E. B. Sia, Nasal Articulation in Homorganic Clusters in American English (p. S11)

Thirteenth Annual Meeting of the Division of Electron and Atomic Physics, American Physical Society, New York, New York
December 3-5, 1981

Abstracts in Bull. Am. Phys. Soc. 26:9 (1981)

- S. Dexheimer, D. Durand, T. Brunner, and D. E. Pritchard, New Behavior of Rate Constants for Rotationally Inelastic Collisions in I_2 -He (p. 1311)
- T. W. Ducas, W. P. Spencer, A. G. Vaidyanathan, and D. Kleppner, Temperature Dependence of Transfer and Photoionization Induced by Blackbody Radiation in Rydberg Atoms (p. 1317)
- R. G. Hulet and D. Kleppner, Production of Atoms with High Angular Momentum (p. 1316)
- D. Kleppner, A. G. Vaidyanathan, and W. P. Spencer, Turnoff of a Mode of Blackbody Absorption (p. 1317)

A. L. Migdall, R. Walkup, and D. E. Pritchard, A Search for Inelastic Atom-Molecule Radiative Collision (p. 1297)

P.E. Moskowitz, P.L. Gould, S.R. Atlas, and D.E. Pritchard, Atomic Deflection in a Resonant Standing Wave (p. 1328)

W. P. Moskowitz, J. A. Serri, C. H. Becker, M. B. Elbel, A. Morales, J. L. Kinsey, and D. E. Pritchard, Differential Cross-Sections for Vibrationally and Rotationally Inelastic Collisions of Na_2 and Ar (p. 1297)

J. R. Rubbmark, L. R. Brewer, and D. Kleppner, A Cold Atomic Hydrogen Beam Source for Laser Spectroscopy (p. 1316)

N. Smith, T. P. Scott, and D. E. Pritchard, Velocity Dependence of Rotationally Inelastic Cross-Sections in $\text{Li}_2(\text{A}'\Sigma)\text{-X}$ (p. 1297)

W. P. Spencer, A. G. Vaidyanathan, T. W. Ducas, and D. Kleppner, Photoionization of Rydberg States of Sodium by a CO_2 Laser (p. 1325)

A. G. Vaidyanathan and P. Shorer, Dynamical Contributions to the Quantum Defects of Calcium (p. 1317)

R. Walkup, A. Migdall, and D. E. Pritchard, Frequency Dependent Polarization of Light Scattered near the Na D2 Resonance Line (p. 1328)

M. L. Zimmerman, M. M. Kash, G. R. Welch, and D. Kleppner, Adiabatic Approximations for Hydrogen in a Strong Magnetic Field (p. 1317)

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- K. Baden-Kristensen and T. F. Weiss, Supporting Cell and Extracellular Responses to Acoustic Clicks in the Free-Standing Region of the Alligator Lizard Cochlea (Hearing Res.)
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27.7 Technical Reports Published

(These and previously published technical reports, if available, may be obtained from the Document Room, 36-412, Research Laboratory of Electronics, Massachusetts Institute of Technology, Cambridge, Massachusetts 02139)

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- 494 S. Hamid Nawab, Signal Estimation from Short-Time Spectral Magnitude
- 495 Andrew L. Kurkjian, The Estimation of the Cylindrical Wave Reflection Coefficient
- 496 Bruce R. Musicus, Iterative Algorithms for Optimal Signal Reconstruction and Parameter Identification Given Noisy and Incomplete Data