

## 29. Publications and Reports

### 29.1 Meeting Papers Presented

**Workshop on Physics of Optical Ring Gyros, Snowbird, Utah**  
January 7–10, 1984

Papers in SPIE Vol. 487

S. Ezekiel, Passive Optical Gyros (invited paper) (pp. 13–20)

**International Astronomical Union Symposium 109, Astrometric Techniques, Gainesville, Florida**  
January 9–12, 1984

Papers in Proceedings

M. Shao, M. Colavita, D. Staelin, R. Simon, and K. Johnston, Present Status and Future Plans for the Two Color Astrometric Interferometer Project

**163rd Meeting, American Astronomical Society, Las Vegas, Nevada**  
January 9–12, 1984

Abstract in Bull. Am. Astron. Soc. 15:4 (1983)

A.H. Barrett, J.M. Jackson, and J.T. Armstrong, HNCO in Molecular Clouds (p. 930)

C.L. Bennett, C.R. Lawrence, J.N. Hewitt, and B.F. Burke, The MIT – Green Bank (MG) 5 GHz Survey (p. 935)

M.V. Gorenstein, N. Bartal, L.A. Molnar, M.J. Reid, I.I. Shapiro, C.L. Bennett, R.J. Bonomett, B.F. Burke, E.E. Falco, J.N. Hewitt, N.L. Cohen, C.L. Lawrence, J.D. Romney, and A.E.E. Rogers, VLBI Detection of Components of a New Gravitational Lens Candidate 2016 + 113A,B,C (p. 936)

P.T.P. Ho, J.M. Jackson, A.H. Barrett, and J.T. Armstrong, The Association of Continuum Emission in the Galactic Center with Molecular Cloud Condensations (p. 941)

C.R. Lawrence, C.L. Bennett, J.N. Hewitt, and B.F. Burke, 5 GHz Structure and Optical Identifications of Weak Extragalactic Sources (p. 936)

C. Lawrence, D. Schneider, M. Schmidt, C. Bennett, J. Hewitt, B. Burke, E. Turner, and J. Gunn, A New Example of Gravitational Lensing: 2016 + 112 (p. 936)

E.L. Turner, J.E. Gunn, C.R. Lawrence, C.L. Bennett, B.F. Burke, and J.N. Hewitt, Models and Implication of the New Gravitational Lens 2016 + 112 (p. 936)

**U.R.S.I. National Radio Science Meeting, University of Colorado, Boulder, Colorado**  
January 11–13, 1984

Abstracts in Proceedings

B.F. Burke, Orbiting Very Long Baseline Interferometry (p. 225)

Y.Q. Jin and J.A. Kong, Wave Scattering by a Bounded Layer of Random Discrete Scatterers (p. 91)

K.S. Nathan, P.W. Rosenkranz, and D.H. Staelin, Temperature Profile Retrieval by Two-Dimensional Filtering (p. 164)

**Conference on Optical Fiber Communication, New Orleans, Louisiana**  
January 23–25, 1984

Abstracts in Technical Digest

R.E. Meyer and S. Ezekiel, High Finesse Fiber Ring Resonator for Rotation Sensing (p. 42)

**NSF Workshop on the Future of Lightwave Technology, Los Angeles, California**  
January 31 – February 2, 1984

Papers in Proceedings

S. Ezekiel, Precision Measurements — Inertial Rotation Sensing (invited paper) (p. 27)

H.A. Haus, High Speed Optical Processing (p. 21)

E. Ippen, Ultrashort Pulse Laser Sources (p. 35)

**TV Conference of the Society Motion Picture Television Engineers (SMPTE), Montreal, Canada**  
February 10, 1984

Papers in Proceedings — SMPTE J. Vol. 93, No. 8, August 1984

W.F. Schreiber, Psychophysics and the Improvement of TV Image Quality (pp. 717–725)

**Materials Research Society 1984 Spring Meeting, Albuquerque, New Mexico**  
February 27–29, 1984

H.I. Smith, C.K. Chen, B-Y. Tsaur, R.W. Mountain, and D.J. Silversmith, Subboundary Entrainment in Strip-Heater Recrystallization Si Films

**IEEE International Conference on Acoustics, Speech and Signal Processing, San Diego, California**

March 19–21, 1984

Papers in ICASSP 84

P. Chan and J.S. Lim, One-Dimensional Processing for Adaptive Image Restoration (paper 37.3.1 – 37.3.4)

F.R. Chen and V.W. Zue, Application of Allophonic and Lexical Constraints in Continuous Digit Recognition (paper 35.3.1 – 35.3.4)

S.R. Curtis, J.S. Lim, and A.V. Oppenheim, Signal Reconstruction from One Bit of Fourier Transform Phase (paper 12A.5.1. – 12A.5.4)

F.U. Dowla and J.S. Lim, Relationship Between Maximum-Likelihood-Method and Autoregressive Modeling in Multidimensional Power Spectrum Estimation (paper 5.3.1 – 5.3.4)

D.W. Griffin, D.S. Dearnich, and J.S. Lim, Speech Synthesis from Short-Time Fourier Transform Magnitude and Its Application to Speech Processing (paper 2.4.1 – 2.4.4)

B.L. Hinman, J.G. Bernstein, and D.H. Staelin, Short-Space Fourier Transform Image Processing (paper 4.8.1 – 4.8.4)

D.P. Huttenlocher and V.W. Zue, A Model of Lexical Access from Partial Phonetic Information (paper 26.4.1 – 26.4.4)

L.F. Lamel and V.W. Zue, Properties of Consonant Sequences Within Words and Across Word Boundaries (paper 42.3.1 – 42.3.4)

H.C. Leung and V.W. Zue, A Procedure for Automatic Alignment of Phonetic Transcriptions with Continuous Speech (paper 2.7.1 – 2.7.4)

E.E. Miliotis, Fast Sequential Least-Square Processing (paper 22.6.1 – 22.6.4)

C. Myers, A. Oppenheim, R. Davis, and W. Dove, Knowledge Based Speech Analysis and Enhancement (paper 39A.4.1 – 39A.4.4)

S. Seneff, Pitch and Spectral Estimation of Speech Based on Auditory Synchrony Model (paper 36.2.1 – 36.2.4)

**Fourth International Symposium in Heating in Toroidal Plasmas, Rome, Italy**

March 21–28, 1984

Papers in Proceedings

P.T. Bonoli, R. Englade, and M. Porkolab, Realistic Modelling of Lower Hybrid Current Drive with Multiple Codes (Vol. II, pp. 1311–1318)

K-I. Chen, S.C. Luckhardt, M.J. Mayberry, M. Porkolab, and R. Rohatgi, Particle Confinement During Lower-Hybrid Current Drive in the Versator II Tokamak (Vol. I, pp.

680-685)

V. Fuchs, A. Bers, and L. Harten, On the Theory of Mode Conversion in Inhomogeneous Plasmas (Vol. I, pp. 463-469)

K. Hizanidis, D.W. Hewett, and A. Bers, Solution of the Relativistic 2-D Fokker-Planck Equation for LH Current Drive (Vol. I, pp. 668-673)

V.B. Krapchev, D.W. Hewett, and A. Bers, Analytic Solution of the 2-D Fokker-Planck Equation for LH Current Drive (Vol. I, pp. 674-679)

M. Porkolab, B. Lloyd, J.J. Schuss, Y. Takase, S. Texter, R. Watterson, P. Bonoli, R. Englade, C. Fiore, R. Gandy, R. Granetz, M. Greenwald, D. Gwinn, B. Lipschultz, E. Marmor, S. McCool, D. Pappas, R. Parker, P. Pribyl, J. Rice, J. Terry, and S. Wolfe, Lower Hybrid Experiments at the 1 MW Level on Alcator C: Heating and Current Drive (invited paper) (Vol. I, pp. 529-545)

A.K. Ram, G. Francis, and A. Bers, Relativistic Electromagnetic Instabilities Near Electron Cyclotron Frequency and Harmonics

**1984 March Meeting, American Physical Society, Detroit, Michigan**

March 26-30, 1984

Abstract in Bull. Am. Phys. Soc. 29:3 (1984)

A. Aharony, D. Blankschtein, and Y. Shapir, Potts Models in Random Fields (p. 398)

Y. Bar-Yam and J.D. Joannopoulos, The Barrier to Migration of the Silicon Self-Interstitial (p. 250)

R.J. Birgeneau, Surface Phase Transitions with Competing Interactions (p. 500)

A. Erbil, R. Kortan, M.S. Dresselhaus, and R.J. Birgeneau, Two-Dimensional Commensurate-Incommensurate Transition in Bromine Intercalated Graphite (p. 383)

C. Jagannath and R.L. Aggarwal, Stress-Induced Far Infrared Generation in InSb Using Difference-Frequency Mixing of CO<sub>2</sub> Laser Lines (p. 304)

R.F. Kwasnick, M.A. Kastner, J. Melngailis, and P.A. Lee, Non-Monotonic Variation of the Conductance with Electron Density in ~70 nm Wide Inversion Layers (p. 472)

J.H. Stathis and M.A. Kastner, Photoinduced Metastable Defects in SiO<sub>2</sub> Glass (p. 339)

**Colloque International "Atomic and Molecular Collisions in a Laser Field," Abbaye de Royaumont, France**

March 26-30, 1984

Papers in Proceedings

D.E. Pritchard, A.L. Migdall, and R.E. Walkup, Inelastic Collisions of Dressed Atoms (pp. 269–274)

**Speech Tech '84, New York, New York**

April 2–4, 1984

J. Allen, Computer Architecture for VLSI Speech Processing

**1984 Sherwood Theory Conference, Incline Village, Nevada**

April 11–13, 1984

Abstracts in Proceedings

R.H. Berman and J-N. Leboeuf, Maximum Entropy and Direct Fourier Spectral Observations of Fluctuations in Turbulent Simulation Plasma (paper 1R23)

P.T. Bonoli, R.L. Watterson, and M. Porkolab, Monte Carlo Simulation of Lower Hybrid Wave Scattering in the Alcator C Tokamak (paper 3P2)

B. Coppi, Theory of Plasmas Near the Lawson Limit (paper 3A3)

R. Englade and P.T. Bonoli, The Early Time Behavior of Lower Hybrid Current Drive (paper 1Q24)

V. Fuchs, A. Bers, and L. Harten, On the Theory of Pairwise Coupling Embedded in More General Local Dispersion Relations (paper 3Q13)

K. Hizanidis, Steady State Solution of the Fokker–Planck Equation Combined with Unidirectional Quasilinear Diffusion Under Detailed Balance Conditions (paper 1Q21)

V. Krapchev, Enhancement of the Reaction Rate by ICRF Heating (paper 1S9)

F. Pegoraro, B. Coppi, S. Cowley, P. Detregiache, R. Kulsrud, and J.J. Ramos, Collective Modes in Spin Polarized Plasmas (paper 2E1)

M. Porkolab, P.T. Bonoli, and R. Englade, Lower Hybrid Heating Studies in the Presence of Impurity Generation in the Alcator C Tokamak (paper 1Q9)

A. Ram, M. Mael, and A. Bers, Stochastic Motion of Mirror–Confined Electrons by a Frequency–Modulated Wave (paper 1P16)

J.J. Ramos, An Ultimate Beta–Limit for Macroscopically Stable Tokamaks (paper 2C4)

M. Shoucri, V. Fuchs, L. Harten, and A. Bers, A Study of Mode Coupling at  $\omega = 2\omega_{ci}$  (paper 2Q24)

Ū. Sugiyama, High Current Ignition Experiments (paper 1R1)

W.M. Tang and B. Coppi, Implications of Kinetik Instabilities for Anomalous Transport

Modeling (paper 1E3)

**Spring General Meeting of the Division of Plasma Physics, American Physical Society, Washington, D.C.**

April 23–28, 1984

S. Luckhardt, Arrangements for 1984 Plasma Division Meeting, Boston, Massachusetts

**SPIE International Meeting, Washington, D.C.**

April 29–May 2, 1984

Papers in SPIE Vol. 478

S. Ezekiel, Passive Optical Gyroscope (invited paper) (p. 2)

F. Zarinetchi, R.E. Meyer, G. Sanders, and S. Ezekiel, Passive Resonator Gyroscope (pp. 122–126)

**107th Meeting, Acoustical Society of America, Norfolk, Virginia**

May 6–10, 1984

Abstracts in *J. Acoust. Soc. Am.* Vol. 75, Suppl. No. 1, Spring 1984

J. Allen, Pattern Recognition in Speech Processing (invited paper) (p. S76)

C. Aoki, D. Klatt, and H. Kawasaki, Acoustic–Phonetic Analysis of Japanese (p. S60)

E. Holmberg, J. Perkell, and R. Hillman, Methods for Using Non–Invasive Technique for Estimating Glottal Functions from Oral Measurements (p. S7)

D.H. Klatt, J. Tiao, and W. Tetschner, Using DECtalk as an Aid for the Handicapped (p. S85)

J. Koehnke and M.F. Cohen, Effects of Masker Level on Binaural Masking Patterns (p. S57)

R.N. Ohde and K.N. Stevens, Revisiting Stop–Consonant Perception for Two–Formant Stimuli (p. S66)

J.S. Perkell and W.L. Nelson, Relationship Between Articulatory and Acoustic Measurements from an X–Ray Microbeam Study of Variability in the Production of the Vowels /i/ and /a/ (p. S22)

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**1984 IEEE International Symposium on Circuits and Systems, Montreal, Canada**

May 7–10, 1984

Papers in Proceedings

P. Yew and J.L. Wyatt, Jr., A Variational Approach to Delay in MOS Logic Circuits (pp. 852–855)

**Workshop on Silicon Compilation, Santa Catalina Island, California**

May 10–11, 1984

C. Bamji, R. Armstrong, and J. Allen, Specialized Compilers for Architectural Units

**51st Statistical Mechanics Meeting, Rutgers University, New Brunswick, New Jersey**

May 10–11, 1984

D. Blankschtein, Y. Shapiro, and A. Aharony, Random Field Effects on the q-State Potts Model

M. Kaufman and M. Kardar, Pseudo-Dimensional-Variation and Tricriticality of Potts Models by Hierarchical Breaking of Translational Symmetry

M.P. Nightingale and J.O. Indekeu, Criticality of Wetting Layers

**Workshop on Diffractive Optics, La Jolla, California**

May 14–15, 1984

J. Melngailis, Techniques of Fabricating Gratings; Reactive Ion Etching, Embossing and Focused Ion Beam Etching

**1984 IEEE International Conference on Plasma Science, Saint Louis, Missouri**

May 14–16, 1984

Abstracts in Proceedings

G. Bekefi, R.E. Shefer, and W.W. Destler, Millimeter Wave Radiation from a Rotating Electron Beam in a Rippled Magnetic Field (p. 97)

B.D. Blackwell, J.D. Moody, R.R. Parker, M. Porkolab, and the Alcator Group, The Alcator C ICRF Heating Experiment (p. 95)

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S.A. Fairfax, R.R. Parker, and J.E. Rice, Fast Electron Temperature Diagnostic for Alcator C (p. 114)

J. Fajans, Y.Z. Yin, G. Bekefi, and B. Lax, Free Electron Laser Experiment in Resonant Helical and Axial Magnetic Fields (p. 98)

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K.D. Jacobs and G. Bekefi, Microwave Radiation and Electron Motion in a Ubitron with an Axial Guiding Magnetic Field (p. 98)

D.A. Kirkpatrick, R.E. Shefer, and G. Bekefi, A Submillimeter Free Electron Laser Using a High Quality Electron Beam (p. 98)

R. Li and D. Hinshelwood, Cathode Plasma Electron Temperature Measurements in REB Diodes (p. 64)

B. Lloyd, S. Knowlton, M. Porkolab, J.J. Schuss, Y. Takase, S. Texter, R. Watterson, P. Bonoli, R. Englade, and the Alcator Group, Lower Hybrid Heating and Current Drive Experiments in Alcator C (invited paper) (p. 59)

M.E. Mael, D.K. Smith, R.S. Post, J. Irby, J. Kesner, R.E. Klinkowstein, B.D. McVey, E. Sevillano, and J.D. Sullivan, Electron Cyclotron Heating in the TARA Tandem Mirror Experiments (p. 90)

F.S. McDermott, G. Bekefi, S.E. Attenberger, D.B. Batchelor, P.H. Edmonds, R.C. Goldfinger, R.R. Kindsfather, E.A. Lazarus, M. Murakami, G.H. Neilson, and A.J. Wootton, Measurements of the Extraordinary Mode Absorption at  $\omega = 2\omega_{ce}$  in the ISX-B Tokamak (p. 96)

B.D. McVey, Antenna-Plasma Coupling in the ICRF (p. 87)

B. McVey, D.K. Smith, Jr., J. Irby, J. Kesner, R. Klinkowstein, M. Mael, R.S. Post, E. Sevillano, and J. Sullivan, ICRF Heating in the TARA Tandem Mirror (p. 90)

A. Ram and A. Bers, Space-Time Evolution of Relativistic Electromagnetic Instabilities (p. 24)

R. Rohatgi, K-I. Chen, G. Bekefi, S.C. Luckhardt, M.J. Mayberry, F. S. McDermott, and M. Porkolab, Lower-Hybrid Wave Detection on Versator II Using Microwave Scattering (p. 96)

**"Managing Telecommunications in the 1980s," Industrial Liaison Program Symposium, Massachusetts Institute of Technology, Cambridge, Massachusetts  
May 21, 1983**



R.S. Kennedy, Fiber Optics and Digital Networks

D.H. Staelin, Two Technological Frontiers: Communications Satellites and Videoconference Services

**"Is There a Substitute for Hearing?" Special Session, Meeting of the American Association for the Advancement of Science, New York, New York**

May 24–25, 1984

C.M. Reed and W.M. Rabinowitz, Research on the Tadoma Method of Speech Communication (invited paper)

**Swedish Academy of Engineering Sciences, Stockholm, Sweden**

May 28, 1984

V.W. Zue, Speech Recognition: Trends and Applications (invited paper)

**Speech Processing Symposium, Baltimore, Maryland**

May 30–June 1, 1984

J.S. Lim, Signal Estimation from Modified Spectrogram

**15th Annual Meeting of the Division of Electron and Atomic Physics, American Physical Society, Storrs, Connecticut**

May 30–June 1, 1984

Abstracts in Bull. Am. Phys. Soc. 29:4 (1984)

R.N. Ahmad-Bitar, V. Bagnato, P.E. Moskowitz, E. Raab, and D.E. Pritchard, Trapping of Neutral Atoms (p. 795)

L.R. Brewer, D. Kleppner, and D. Kelleher, Resonant 4 Photon Ionization of Atomic Hydrogen (p. 824)

B.J. Hughey, T.R. Gentile, W.P. Spencer, and D. Kleppner, Rydberg Atoms in a Microwave Cavity (p. 795)

R.G. Hulet and D. Kleppner, The Production and Application of High Angular Momentum "Circular" State Atoms (p. 785)

A.L. Migdall, K.L. Saenger, and D.E. Pritchard, Rotationally Inelastic Collisions in a Supersonic Jet (p. 782)

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W.P. Moskowitz, B. Stewart, J.L. Kinsey, and D.E. Pritchard, Velocity Dependence of

Rotational Rainbow Structure in Na<sub>2</sub>Ar (p. 783)

T.P. Scott, N. Smith, P. Magill, and D.E. Pritchard, Level to Level Specific Vibrationally Inelastic Rate Constant for Li<sub>2</sub>(A<sup>1</sup>Σ)-Xe (p. 807)

N. Smith and D. E. Pritchard, Rotationally Inelastic Collisions in Li<sub>2</sub>(A<sup>1</sup>Σ) — Rare Gases Adiabatic Effects (p. 807)

**NASA Workshop on Identification and Control of Flexible Space Structures, San Diego, California**

June 4–6, 1984

Y. Yam, J.H. Lang, T.L. Johnson, and D.H. Staelin, The Computer-Controlled Experimentation of a Two-Dimensional Hyperbolic System

**164th Meeting, American Astronomical Society, Baltimore, Maryland**

June 10–13, 1984

Abstracts in Bull. Am. Astron. Soc. 16:2 (1984)

C.L. Bennet and C.R. Lawrence, Application of CLEAN to Single Dish Radio Astronomy Data (p. 499)

J.N. Hewitt, B.F. Burke, and D.H. Roberts, Radio Flux Monitoring of 0957 + 561 A and B (p. 519)

G.I. Langston, K.C. Turner, C.R. Lawrence, C.L. Bennett, and B.F. Burke, Spectral Indices of Sources Selected from MIT — Green Bank Survey (p. 520)

J.H. Mahoney, J.M. van der Hulst, and B.F. Burke, Simulations and 21 cm Observations of the Colliding Galaxies NGC4038/39 (p. 539)

M. Shao, D. Staelin, and K. Johnston, The Technology Requirements of a Small Space-Based Astrometric Interferometer (p. 557)

**IAU Symposium 112 "Search for Extraterrestrial Life — Recent Developments," Boston University, Boston, Massachusetts**

June 18–21, 1984

D.H. Staelin, M.M. Colavita, and M. Shao, Planetary Searches Using Optical Astrometric Interferometers

**International Quantum Electronics Conference, Anaheim, California**

June 18–22, 1984

Abstracts in J. Opt. Soc. Am. B 1:3, (1984)

S. DeSilvestri, P. Laporta, and O. Svelto, Effects of Cavity Dispersion in Femtosecond Mode-Locked Dye Lasers (p. 436)

J.G. Fujimoto, A.M. Weiner, and E.P. Ippen, Compression and Parametric Scattering with Femtosecond Pulses (p. 435)

H.A. Haus and M.N. Islam, Theory of the Soliton Laser (p. 445)

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G.A. Sanders and S. Ezekiel, Measurement of Fresnel Drag in Moving Media Using a Ring-Resonator Technique (p. 528)

J.H. Shapiro, P. Kumar, M.W. Maeda, and R.S. Bondurant, Quantum Noise and the Detection of Squeezed States (p. 517)

**NSF Grantee — User Meeting on Optical Communication Systems, University of California, San Diego, California**

June 25–26, 1984

Papers in Proceedings

H.A. Haus and L. Molter-Orr, N-th Order Coupled Waveguide System: A Waveguide Lens for Power Combining of Laser Array Output (pp. 193–201)

T.T. Nguyen, J.H. Shapiro, A.K. Wong, and D.J. Epstein, Atmospheric Optical Communications for Local Area Networks (pp. 21–26)

**ACM — IEEE 21st Design Automation Conference, Albuquerque, New Mexico**

June 25–27, 1984

Papers in Proceedings

L.A. Glasser and L.P.J. Hoyte, Delay and Power Optimization in VLSI Circuits (pp. 529–535)

S.P. McCormick, EXCL: A Circuit Extractor for IC Designs (pp. 616–623)

**1984 AP-S and URSI International Symposium, Boston, Massachusetts**

June 25–28, 1984

Abstracts in Program and Abstracts

A.C. Briançon and D.H. Staelin, Synthetic Aperture Imaging of the Earth from Synchronous Orbit (p. 184)

Y.Q. Jin and J.A. Kong, Modified Radiative Transfer Equation in Strong Fluctuation

Approach (p. 52)

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A. Sezginer and J.A. Kong, Transient Response to a Line Source Excitation in Cylindrical Geometry (p. 25)

R.T. Shin and J.A. Kong, Scattering of Electromagnetic Waves by a Randomly Perturbed Quasi-Periodic Surface (p. 49)

**1984 International Conference on Plasma Physics, Lausanne, Switzerland**

June 27–July 3, 1984

Abstracts in Proceedings

B. Basu and B. Coppi, Gravity Driven Ballooning-Type Modes in the Ionosphere and Equatorial Spread F (Vol. I, Sec. 11)

G. Bekefi, J. Fajans, K.D. Jacobs, B. Lax, and Y.Z. Yin, Free Electron Masers in Transverse Wiggler and Axial Guide Magnetic Fields (Vol. II, Sec. 31)

A. Bers, A. Ram, and G. Francis, Relativistic Theory of Absolute and Convective Instability Evolutions in Three Dimensions (Vol. I, Sec. 7)

G. Francis, A. Ram, and A. Bers, Finite Temperature Effects on the Space-Time Evolution on Two-Stream Instabilities (Vol. I, Sec. 7)

K. Hizanidis, Steady State Solution of the Fokker-Planck Equation Combined with Unidirectional Quasilinear Diffusion Under Detailed Balance Conditions (Vol. I, Sec. 8)

F. Pegoraro, B. Coppi, S. Cowley, P. Detregiache, R. Kulsrud, and J. J. Ramos, Collective Modes in Spin Polarized Plasmas (Vol. I, Sec. 5)

J.J. Ramos, An Ultimate Beta-limit for Macroscopically Stable Tokamaks (Vol. I, Sec. 16)

**Bioelectric Magnetic Society Conference, Atlanta, Georgia**

July 14–18, 1984

R. Rotman, Microwave Thermography

**Sixth American Conference on Crystal Growth and Sixth International Conference on Vapor Growth and Epitaxy, Atlantic City, New Jersey**

July 15–20, 1984

T. Yonehara, H.I. Smith, C.V. Thompson, and J.E. Palmer, Graphoepitaxy of GE by Solid-State Surface-Energy-Driven Secondary Grain Growth

**Conference on "Optical Effects in Amorphous Semiconductors," Snowbird, Utah**  
August 1-4, 1984

Papers in AIP Conference Proceedings No. 120

J.H. Stathis and M.A. Kastner, Photoinduced Paramagnetic Centers in a-SiO<sub>2</sub> (pp. 78-85)

**17th International Conference on the Physics of Semiconductors, San Francisco, California**  
August 6-10, 1984

Papers in Proceedings

Y. Bar-Yam and J.D. Joannopoulos, Intrinsic Defects in Silicon Formation and Migration Energies

**Thirteenth International Conference on Defects in Semiconductors, Coronado, California**  
August 12-17, 1984

Papers in Proceedings

Y. Bar-Yam and J.D. Joannopoulos, Microscopic Theory of Low and High Temperature Dynamics of Intrinsic Defects in Silicon (pp. 261-267)

**First International Conference on the Structure of Surfaces, Berkeley, California**  
August 13-16, 1984

Papers in Proceedings

R.J. Birgeneau, P.M. Horn, and D.E. Moncton, Phase and Phase Transitions in Two Dimensional Systems with Competing Interactions

**SPIE Annual International Technical Symposium on Optics and Electro-Optics, San Diego, California**  
August 19-24, 1984

Papers in SPIE Vol. 504

T.N. Pappas and J.S. Lim, Estimation of Coronary Artery Boundaries in Angiograms (pp. 312-321)

**International Geoscience and Remote Sensing Symposium, Strasbourg, France**

August 27–30, 1984

Papers in IGARSS '84

D.H. Staelin, Passive Microwave Remote Sensing of the Atmosphere from Satellites (invited paper) (pp. 413–415)

**1984 International Conference on Solid State Devices and Materials, Kobe, Japan**

August 30–September 1, 1984

Papers in Proceedings

T. Yonehara, H.I. Smith, J.E. Palmer, and C.V. Thompson Surface–Energy–Driven Graphoepitaxy in Ultra–Thin Films of Ge (paper B–10–1, pp. 515–518)

**International Conference on Digital Signal Processing, Florence, Italy**

September 5–8, 1984

Papers in Digital Signal Processing — 84

D. Griffin and J.S. Lim, A New Pitch Detection Algorithm (pp. 395–399)

**Tenth Conference on Plasma Physics and Controlled Nuclear Fusion Research, London, England**

September 12–19, 1984

Papers in Proceedings

M. Greenwald, D. Gwinn, S. Milora, J. Parker, R. Parker, S. Wolfe, M. Besen, B. Blackwell, F. Camacho, S. Fairfax, C. Fiore, M. Foord, R. Gandy, C. Gomez, R. Granetz, B. LaBombard, B. Lipschultz, B. Lloyd, E. Marmor, S. McCool, D. Pappas, R. Petrasso, M. Porkolab, P. Pribyl, J. Rice, D. Schuresko, Y. Takase, J. Terry, and R. Watterson, Pellet Fueling Experiments in Alcator C (pp. 45–55)

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**"Interface Migration and Control of Microstructure" Symposium, American Society for Metals, Metals Congress, Detroit, Michigan**  
September 17–20, 1984

C.V. Thompson, Secondary Grain Growth in Ultrathin (<100nm) Films of Silicon and Germanium

**1984 Frontiers in Education Conference, Philadelphia, Pennsylvania**  
October 3–5, 1984

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W.M. Siebert, Changing Patterns in Engineering Education (pp. 47–49)

**Digital Signal Processing Workshop, Chatham, Massachusetts**  
October 8–10, 1984

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D.W. Griffin and J.S. Lim, A Speech Spectral Analysis/Synthesis System (paper 5.1.1 – 5.1.2)

C. Myers and W. Dove, Knowledge Based Speech Processing (paper 4.5.1 – 4.5.2)

**108th Meeting, Acoustical Society of America, Minneapolis, Minnesota**  
October 8–12, 1984

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**First International Conference on Integrated Optical Circuit Engineering, Cambridge, Massachusetts**

October 21–26, 1984

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**Workshop on Atomic Spectra and Cohesions in External Fields, National Bureau of Standards, Washington, D.C.**

October 22–23, 1984

R.G. Hulet, Rydberg Atoms in "Circular" States (invited paper)

**Colloquium on Kilometric Optical Arrays in Space, Cargese (Corsica) France**

October 22–25, 1984

Papers in Proceedings

B.F. Burke, VLBI at Optical and Radio Wavelengths: Congruences and Contrasts (pp.177–183)

**26th Annual Meeting of the Division of Plasma Physics, American Physical Society, Boston, Massachusetts**

October 29–November 2, 1984

Abstracts in Bull. Am. Phys. Soc. 29:8 (1984)

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October 29–November 2, 1984

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**Interactive Workshop on Advances in Remote Sensing Retrieval Methods, Williamsburg, Virginia**

October 30–November 1, 1984

P.W. Rosenkranz, K.S. Nathan, and D.H. Staelin, Use of Two and Three Dimensional Spatial Filtering for Inversion of Radiometric Measurements

**Fourth International Conference on Ferrites (ICF4), San Francisco, California**

October 31–November 2, 1984

F.R. Morgenthaler, Magnetoelastic versus Magnetostatic Waves for Microwave Signal Processing

**1984 American Speech–Language–Hearing Association Meeting, San Francisco, California**

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Abstracts in ASHA 26:10, October 1984

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G.D. Kidd, E.R. Hafter, H. Levitt, K.J. Gabriel, and F.L. Wightman, A Selection of Current Studies of Binaural Hearing (p. 104)

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**Materials Research Society Fall Meeting, Boston, Massachusetts**

November 26–30, 1984

M.W. Geis, H.I. Smith, C.K. Chen, R.W. Mountain, and C.L. Doherty, The Characterization Control and Elimination of Subboundaries in Thin Silicon–on–Insulator Films Produced by Zone Melting Recrystallization (ZMR)

**"Laser '84", Seventh International Conference on Laser Applications**

November 26–30, 1984

A.M. Weiner, S. DeSilvestri, and E.P. Ippen, Femtosecond Transient Gratings (invited paper)

**Workshop on VLSI Signal Processing, University of Southern California, Los Angeles, California**

November 27–29, 1984

Papers in VLSI Signal Processing (IEEE Press, 1984)

C.J. Kuo, B.C. Levy, and B.R. Musicus, The Specification and Verification of Systolic Wave Algorithm (pp. 271–281)

**Workshop on Near-Millimeter-Wave Communication Technology, New York Institute of Technology, Glen Cove, New York**

December 5–7, 1984

J.H. Shapiro, Propagation Effects on Millimeter Wave System Performance (invited paper)

**1984 IEEE International Electron Devices Meeting, San Francisco, California**

December 9–12, 1984

Papers in Technical Digest

G. Bekefi, Survey of Physics Research in Microwave Devices (invited paper) (paper 35.1, pp. 822–825)

**Workshop on ICRF Problems, University of California, Los Angeles, California**

December 17–18, 1984

A. Bers, Mode Conversion by Pairwise Coupling

M. Porkolab, ICRH Heating Experiments in Alcator C

M. Porkolab, Nonlinear Absorption of Ion Bernstein Modes During High Power Heating Experiments

A. Ram, ICRF Antenna-Plasma Coupling Theory in Slab Geometry

## **29.2 Journal Papers Published**

D. Andelman and A. Aharony, Critical Behavior with Axially Correlated Random Bonds (Phys. Rev. B 31:7, 4305–4312 (1985))

Y. Bar-Yam and J.D. Joannopoulos, Electronic Structure and Total Energy Migration Barriers of Silicon Self-Interstitial (Phys. Rev. B 30:4, 1844–1852 (1984))

Y. Bar-Yam and J.D. Joannopoulos, Silicon Self-Interstitial Migration Multiple Paths and Charge States (Phys. Rev. B 30:4, 2216–2218 (1984))

R.H. Berman, D.J. Tetreault, and T.H. Dupree, Simulation of Phase Space Hole Growth and the Development of Intermittent Plasma Turbulence (Phys. Fluids 28:1, 155–176 (1985))

A. Bers, Guest Editorial — RF Heating and Current Generation — An Overview and Perspective of This Special Issue (IEEE Trans. Vol. PS-12, No. 2, pp. 45–47, June 1984)

- R.S. Bondurant and J.H. Shapiro, Squeezed States in Phase-Sensing Interferometers (Phys. Rev. D 30:12, 2548–2556 (1984))
- R.S. Bondurant, P. Kumar, J.H. Shapiro, and M. Maeda, Degenerate Four-Wave Mixing as a Possible Source of Squeezed-State Light (Phys. Rev. A 30:1, 343–353 (1984))
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- S.L. Chuang and J.A. Kong, Enhancement of Smith-Purcell Radiation from a Grating Surface with Plasmon Excitation (J. Opt. Soc. Am. 1:6, 672–676 (1984))
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- J.G. Fujimoto and T.K. Yee, Influence of Dephasing Relaxation on the Transient Properties of Parametric Four-Wave Mixing (Appl. Phys. B 34, 55–61 (1984))
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- D.W. Griffin and J.S. Lim, Signal Estimation from Modified Short-Time Fourier Transform (IEEE Trans. Vol. ASSP-32, No. 2, pp. 236–243, April 1984)
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- M. Kaufman, Duality and Potts Critical Amplitudes on a Class of Hierarchical Lattices (Phys. Rev. B 30:1, 413–414 (1984))
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- M. Borgeaud and F.R. Morgenthaler, An Improved Two-Port Magnetoelastic Delay Line (IEEE Trans. (Magnetics))
- S.R. Curtis, A.V. Oppenheim, and J.S. Lim, Signal Reconstruction from Fourier Transform Sign Information (IEEE Trans. (ASSP))
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## 29.7 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*

- 500 Susan R. Curtis, Jae S. Lim, and Alan V. Oppenheim, Signal Reconstruction from Fourier Transform Sign Information
- 501 Philip Chan, One-Dimensional Processing for Adaptive Image Restoration
- 502 Webster P. Dove, Cory Myers, and Evangelos E. Milios, An Object-Oriented Signal Processing Environment; The Knowledge-Based Signal
- 503 Steven P. McCormick, Automated Circuit Extraction from Mask Description of MOS Networks

