

28. Publications and Reports

28.1 Meeting Papers Presented

10th Conference on Numerical Simulation in Plasma, San Diego, California

January 4-6, 1983

R.H. Berman, Symbolic Computation in Plasma Physics (invited paper)

R.H. Berman, D.J. Tetreault, and T.H. Dupree, Observation of Turbulent Self-binding Fluctuations in Simulation Plasma

National Radio Science Meeting, University of Colorado, Boulder, Colorado

January 5-7, 1983

Abstracts in Proceedings

J.A. Kong, S.L. Lin, S.L. Chuang, and R.T. Shin, Remote Sensing of Soil Moisture and Vegetation (p. 213)

R.T. Shin and J.A. Kong, Thermal Microwave Emission from a Scattering Medium with Rough Surfaces (p. 171)

161st Meeting, American Astronomical Society, Boston, Massachusetts,

January 9-12, 1983

Abstracts in Bull. Am. Astron. Soc. 14:4 (1982)

J.W. Dreher and C.R. Lawrence, Hot Spots in Extragalactic Radio Sources (p. 963)

D.H. Roberts, P.E. Greenfield, B.F. Burke, J.N. Hewitt, and A.K. Dupree, Recent VLA Observations of the Double Quasar 0957 + 561 (p. 974)

M. Shao, M. Colavita, P. Garnavich, D. Staelin, and S. Knowles, NRL-MIT Astrometric Interferometer (p. 884)

Winter '83 Meeting on "Optical Techniques for Remote Probing of the Atmosphere," Incline Village, Nevada

January 10-12, 1983

Papers in Technical Digest

Y.Q. Jin and J.A. Kong, Mie Scattering of Electromagnetic Waves by Precipitation (pp. MC2-1 - MC2-4)

**Topical Meeting on Signal Recovery and Synthesis with Incomplete Information and Partial Constraints, Optical Society of America, Incline Village, Nevada
January 12–14, 1983**

Papers in Digest of Technical Papers

A.V. Oppenheim and J.S. Lim, Signal Reconstruction from Partial Fourier Domain Information (pp. ThA12:1–ThA12:4)

T.F. Quatieri, S.H. Nawab, and J.S. Lim, Frequency Sampling of the Short-Time Fourier Transform Magnitude (pp. ThA9:1–ThA9:4)

P.L. Van Hove, J.S. Lim, and A.V. Oppenheim, Signal Reconstruction from Fourier Transform Amplitude (pp. ThA15:1–ThA15:4)

**Sixth Midwinter Research Meeting of the Association for Research in Otolaryngology, St. Petersburg, Florida
January 23–27, 1983**

Abstracts in Proceedings

J.J. Rosowski and W.T. Peake, From the Ear Canal of the Alligator Lizard: Evidence for Multiple Inner-Ear Sources of Mechanical Non-Linearity (p. 101)

**Fifth Topical Conference on RF Plasma Heating, University of Wisconsin, Madison, Wisconsin
February 21–13, 1983**

Papers in Proceedings

P.T. Bonoli, R.C. Englade, and M. Porkolab, A Computational Model for Lower-Hybrid Current Drive (pp. 72–75)

V. Fuchs, V. Krapchev, and A. Bers, Stochasticity Induced by Coherent Wavepackets (pp. 156–159)

K. Hizanidis, V. Krapchev, A. Ram, and A. Bers, Relativistic Two-Dimensional Theory of RF Current Drive (pp. 160–163)

S.C. Luckhardt, S.F. Knowlton, K.I. Chen, M.J. Mayberry, S. McDermott, M. Porkolab, and R. Rohatgi, Lower-Hybrid Current Drive and Heating Experiments on the Versator II Tokamak (pp. 76–79)

M. Porkolab, J.J. Schuss, B. Lloyd, Y. Takase, S. Texter, R. Watterson, P. Bonoli, R. Englade, C. Fiore, R. Gandy, R. Granetz, M. Greenwald, D. Gwinn, B. Lipschultz, E. Marmar, S. McCool, D. Pappas, R. Parker, P. Pribyl, J. Rice, J. Terry, S. Wolfe, R. Slusher, and C.M. Surko, Lower Hybrid Current Drive and Heating Experiments up to the 1 MW Level in Alcator C (pp. 88–95)

A. Ram and A. Bers, Antenna-Plasma Coupling Theory for ICRF Heating (pp. 300-303)

R.L. Watterson, Y. Takase, M. Porkolab, J.J. Schuss, R.E. Slusher, and C.M. Surko, Study of Lower Hybrid Waves in Alcator C Using CO₂ Laser Scattering (pp. 80-83)

Workshop on "New Directions in Phase-Conjugate Nonlinear Optics," Los Alamos, New Mexico

February 22-24, 1983

J. Shapiro, Mysteries and Applications of Two-Photon Coherent States

1983 IEEE Workshop on Automatic Test Program Generation, San Francisco, California

March 15-16, 1983

G. Kramer, Test Generation Algorithms

1983 Sherwood Meeting, Arlington, Virginia

March 21-23, 1983

Abstracts in Proceedings

P.T. Bonoli, L. Sugiyama, and R.C. Englade, Lower Hybrid Heating in the Ignitor Device (p. 3P13)

B. Coppi, F. Pegoraro, and J.J. Ramos, Instability of Fusing Plasmas and Relevant Spin-Depolarization Process (p. 2C2)

G.B. Crew, B. Coppi, J. Martinelli, and J.J. Ramos, Collisionless Internal Kink Modes (p. 1P17)

R. Englade and P. Bonoli, Simulations of the Density, Phase and Toroidal Field Dependence of Lower Hybrid Current Drive (p. 1S1)

V. Fuchs, V. Krapchev, A. Ram, and A. Bers, Scattering and Stochasticity of Electron Interacting with Coherent Wavepackets

D.W. Hewett, V. Krapchev, J.P. Freidberg, and A. Bers, Fokker-Plank Investigations of rf Current Drive (p. 1P10)

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L. Sugiyama, Current and Particle Density Effects on Ignition in the Presence of Sawteeth (p. 2P16)

G. Vlad and B. Coppi, Finding of a "Bremsstrahlung Cortex" in Advanced Fuel Burning Plasmas (p. 1R9)

1983 March Meeting, American Physical Society, Los Angeles, California

March 21–25, 1983

Abstracts in *Bull. Am. Phys. Soc.* 28:3 (1983)

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J. Ihm, D.H. Lee, J.D. Joannopoulos, and A.N. Berker, Structure and Phase Transition of the Reconstructed Si(100) Surface (p. 416)

C. Jagannath and D.M. Larsen, Four-Wave Piezospectroscopy of the Ground-State of Donors in Silicon (p. 534)

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B.D. Larson, L.J. Yu, and J.D. Litster, Reorientational Behavior of Micelles in a Lyotropic Liquid Crystal via Picosecond Absorption Spectroscopy of Probe Dye Molecules (p. 332)

G. Timp, A.R. Kortan, L. Salamanca-Riba, R.J. Birgeneau, and M.S. Dresselhaus, High Resolution Diffraction Experiments on Graphite Potassium Amalgam (p. 347)

SPIE's Technical Symposium East '83, Arlington, Virginia

April 4–8, 1983

Papers in SPIE

D.M. Papurt, J.H. Shapiro, and S.T. Lau, Measured Turbulence and Speckle Effects in Laser Radar Target Returns (Vol. 415, pp. 166–178)

J.H. Shapiro, Random-Medium Propagation Theory Applied to Communication and Radar System Analyses (Vol. 410, pp. 98–102)

IEEE International Conference on Acoustics, Speech and Signal Processing, Boston, Massachusetts

April 14–16, 1983

Papers in ICASSP '83

M.A. Bush, G.E. Kopec, and V.W. Zue, Selecting Acoustic Features for Stop Consonant Identification (paper 16.8, pp. 742–745)

M.A. Clements, L.D. Braida, and N.I. Durlach, Speech Processing for Artificial Tactile Speech Displays (paper 28.13, pp. 1376–1379)

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C. Esmersoy and J.S. Lim, Subjective Evaluation of a PCM Speech Coding System with Quantization Noise Reduction (paper 24.6, pp. 1137–1140)

D.W. Griffin and J.S. Lim, Signal Estimation from Modified Short-Time Fourier Transform (paper 17.8, pp. 804–807)

J.S. Lim and F.U. Dowla, Improved Maximum Likelihood Method for a Two-Dimensional Spectral Estimation (paper 18B.3, pp. 851–854)

E.E. Milios and A.V. Oppenheim, The Phase-only Version of the LPC Residual in Speech Coding (paper 17.6, pp. 797–799)

B.R. Musicus, Iterative Algorithms for Optimal Signal Reconstruction and Parameter Identification Given Noisy and Incomplete Data (paper 6.1, pp. 235–238)

S.H. Nawab, T.F. Quatieri, and J.S. Lim, Algorithms for Signal Reconstruction from Short-Time Fourier Transform Magnitude (paper 17.7, pp. 800–803)

H.C. Reeve III and J.S. Lim, Reduction of Blocking Effect in Image Coding (paper 26A.1, pp. 1212–1215)

CANDE Workshop, Mescalera, New Mexico

April 17–22, 1983

L. Seiler and J. Allen, Special Hardware for Design Rule Checking

Department of Electrical Engineering Seminar, University of Maryland, College Park, Maryland

April 18, 1983

R.E. Shefer, Coherent Millimeter Wave Generation at M.I.T. (invited paper)

1983 Spring Meeting, American Physical Society, Baltimore, Maryland

April 18–21, 1983

Abstracts in Bull. Am. Phys. Soc. 28:4 (1983)

D. Kleppner, Spin Polarized Hydrogen for Polarized Source and Targets (p. 664)

Nineteenth Regional Meeting, Chicago Linguistic Society, Chicago, Illinois

April 21–22, 1983

in A. Chukerman, M. Marks, and J. F. Richardson (Eds.), CLS 19

K.L. Landhal and E.M. Maxwell, The /b/-/w/ Contrast and Considerations of Syllable Duration (pp. 234–243)

Electrochemical Society Symposium on III–V Opto–Electronics Epitaxy and Device–Related Processes, San Francisco, California
May 8–13, 1983

C.J. Keavney, H.A. Atwater, H.I. Smith, and M.W. Geis, Zone Melting Recrystallization of InSb on Oxidized Silicon Wafers

105th Meeting, Acoustical Society of America, Cincinnati, Ohio
May 9–13, 1983

Abstracts in J. Acoust. Soc. Am. Vol. 73, Suppl. No. 1, Spring 1983

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P.M. Zurek, N.I. Durlach, H.S. Colburn, and K.J. Gabriel, Masker Bandwidth and the MLD (p. S77)

49th Statistical Mechanics Meeting, Rutgers University, New Brunswick, New Jersey
May 12–13, 1983

R.E. Goldstein, Molecular Structure and Hydrogen Bonding at Lower Critical Solution Points

Conference on Lasers and Electro-Optics — CLEO '83, Baltimore, Maryland
May 17–20, 1983

R.S. Putnam, M.M. Salour, and T.C. Harman, Optically Pumped Mode-Locked LPE-Grown HgCdTe Lasers

IEEE 1983 Custom Integrated Circuits Conference, Rochester, New York
May 23–25, 1983

Papers in Proceedings

J. Allen, The Design of Custom Integrated Circuits for Signal Processing (pp. 364–368)

1983 IEEE International Conference on Plasma Science, San Diego, California
May 23–25, 1983

Abstracts in Conference Record

D.D. Hinshelwood, The Effect of Cathode Surface Impurities on Gap Closure (p. 125)

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U.R.S.I. National Radio Science Meeting, University of Houston, Houston, Texas
May 23–26, 1983

Abstracts in Proceedings

L. Tsang and J.A. Kong, Scattering of Electromagnetic Waves from a Half-Space of Densely Distributed Dielectric Scatterers (p. 133)

IEEE Computer Society Trends and Applications Conference, Gaithersburg, Maryland
May 25–26, 1983

Papers in Proceedings

V.W. Zue and D.P. Huttenlocher, Computer Recognition of Isolated Words from Large Vocabularies (pp. 121–125)

IEEE Mini-Course "RF Heating and Current Drive in Magnetic Fusion Plasmas," San Diego, California
May 25–27, 1983

A. Bers, Interactions of Electromagnetic Waves with Magnetized Plasmas

1983 International Symposium on Electron, Ion, and Photon Beams, Los Angeles, California
May 31 – June 3, 1983

Papers in Proceedings

E.H. Anderson and H.I. Smith, TEM Analysis of Vertical-Slab Cross Section of Submicrometer Structures

A.M. Hawryluk, H.I. Smith, and D.J. Ehrlich, Deep UV Spatial-Period-Division by Combining Multilayer Mirrors with Diffraction Gratings

H.J. Lezec, E.H. Anderson, and H.I. Smith, An Improved Technique for Resist-Profile Control in Holographic Lithography

M.L. Schättenburg, C.L. Canizares, H.I. Smith, and A.M. Hawryluk, Submicrometer-Period Transmission Diffraction Gratings for X-Ray Astronomy

A.C. Warren, D.A. Antoniadis, J. Melngailis, and H.I. Smith, Submicrometer-Period Channel

Modulation of a MOSFET

Low-Hybrid Group Seminar, Princeton Plasma Physics Laboratory, Princeton, New Jersey

June 1, 1983

S.C. Luckhardt, Partial Confinement Measurements During Low-Hybrid Current Drive (invited paper)

Ninth Conference on Aerospace and Aeronautical Meteorology, Omaha, Nebraska

June 6–9, 1983

Papers in Preprint Volume of Extended Abstracts

D.H. Staelin, Atmospheric Temperature Sounding from Space (pp. 191–193)

Army Snow Meeting Workshop, Boulder, Colorado

June 7–8, 1983

J. Kong, Theoretical Models for Remote Sensing of Earth Terrain

Fifth Rochester Conference on Coherence and Quantum Optics, University of Rochester, Rochester, New York

June 13–15, 1983

Papers in Coherence and Quantum Optics V (Plenum Press)

R.S. Bondurant, M. Maeda, P. Kumar, and J.H. Shapiro, Pump and Loss Effects on Degenerate Four-Wave Mixing Quantum Statistics (pp. 767–774)

R.S. Bondurant and J.H. Shapiro, Squeezed States in Phase-Sensing Interferometers (pp. 629–636)

P. Kumar, R.S. Bondurant, J.H. Shapiro, and M.M. Salour, Quantum Noise Measurements in Degenerate Four-Wave Mixing (pp. 43–50)

Seminar on Electrooptical Engineering, National Chiao Tung University, Taiwan, Republic of China

June 20, 1983

H.A. Haus, Optical Waveguide Structures for Picosecond Signal Processing (invited paper)

Gordon Conference on Plasma Physics, New London, New Hampshire

June 20–24, 1983

J.J. Ramos, Second Region of Stability of Kink and Ballooning Modes

Symposium for Senior Executives "Global Technological Change: A Strategic Assessment," Massachusetts Institute of Technology, Cambridge, Massachusetts
June 21–23, 1983

Papers in Proceedings

J. Allen, New Perspectives in Electronics Technology (pp. 61–85)

VLSI Workshop, Saratoga Spring, New York
June 23–25, 1983

J. Allen, Computer–Aided Design of Integrated Circuits for Digital Signal Processing

Electronic Materials Conference, Burlington, Vermont
June 23–25, 1983

H.A. Atwater, C.V. Thompson, H.I. Smith, and M.W. Geis, Orientation Filtering by Growth Velocity Competition in Zone–Melting Recrystallization of Si on SiO₂

IOOC '83 – Fourth International Conference on Integrated Optics and Optical Fiber Communication, Tokyo, Japan
June 27–30, 1983

Papers in Technical Digest

H.A. Haus and M. Kuznetsov, Radiation Loss of Coupled Waveguide Structures (pp. 360–361)

R.H. Rediker, T.A. Lind, and F.J. Leonberger, Integrated Optics Wavefront Measurement Sensor (pp. 248–249)

IUTAM–IUPAP Symposium on "Mechanical Behavior of Electromagnetic Solid Continua,"
Paris, France
July 4–7, 1983

Papers in G.A. Maugin (Ed.), The Mechanical Behavior of Electromagnetic Solid Continua (Elsevier Science Publishers, Amsterdam, The Netherlands, 1984)

F.R. Morgenthaler, On the Electrodynamics of a Deformable Ferromagnet Undergoing Magnetic Resonance (pp. 287–292)

Symposium: "Process for the Phonetic Coding and Decoding of Speech," Toulouse, France
July 15–16, 1983

Papers in Speech Communication — Special Issue, July 1983

K. Stevens, Invariant Acoustic Correlates of Distinctive Features: A Review of Some Evidence

V.W. Zue, The Use of Phonetic Rules in Automatic Speech Recognition (invited paper)
(pp. 181–186)

11th International Congress of Acoustics, Paris, France

July 19–27, 1983

Papers in Proceedings

C. Shadle, Turbulence Noise in the Vocal Tract (pp. 171–174)

V.W. Zue, The Use of Phonetic Rules in Automatic Speech Recognition

Tenth International Congress on Phonetic Sciences, Utrecht, The Netherlands

August 1–6, 1983

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J. Allen, Units for Speech Synthesis (pp. 107–111)

C.A. Bickley, Acoustic Evidence for Phonological Development of Vowels in Young Children
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C.Y. Espy, Coarticulatory Effects Between /l/ and /r/ Allophones and Adjacent Vowels
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S. Shattuck-Hufnagel, Evidence for a Speech Production Planning Model from Spontaneous and Elicited Speech Errors (p. 792)

V.W. Zue, Proposal for an Isolated-Word Recognition System Based on Phonetic Knowledge and Structural Constraints (pp. 299–305)

Gordon Research Conference on Implantable Auditory Prostheses, Tilton, New Hampshire

August 21–26, 1983

W.M. Rabinowitz, Selection of Speech Intelligibility Test Materials and Artificial Speech Codes for Consideration with Cochlear Implants

American Association for Artificial Intelligence Annual Conference, Washington, D.C.

August 22–26, 1983

D.P. Huttenlocher, Phonotactic and Lexical Constraints in Speech Recognition

1983 IEEE Workshop on Digital Signal Processing, L'Aquila, Italy

September 6–8, 1983

J. Allen, The Impact of Parallelism on Hardware and Software

J. Allen, Software Engineering

A.V. Oppenheim, J.S. Lim, and S.R. Curtis, Signal Reconstruction from Partial Fourier Domain Information

Fifth International Topical Conference on High-Power Electron and Ion-Beam Research and Technology, San Francisco, California

September 12–14, 1983

D.A. Kirkpatrick, R.E. Shefer, Y.Z. Yin, and G. Bekefi, Energy and Velocity Diagnostics for Intense Relativistic Electron Beams

R.E. Shefer, G. Bekefi, R.D. Estes, C-L. Chang, E. Ott, T.M. Antonsen, and A.T. Drobot, Experimental and Theoretical Results from a Rippled Field Magnetron (Cross-Field FEL)

VII International Conference on Crystal Growth, Stuttgart, Federal Republic of Germany

September 12–16, 1983

C.V. Thompson and H.I. Smith, Silicon-on-Insulator by Surface-Energy-Driven Secondary Recrystallization with Patterning

Symposium on X-Ray Microscopy, Gottingen, Federal Republic of Germany

September 14–16, 1983

Papers in G. Schnahl and D. Rudolph (Eds.), X-Ray Microscopy — Springer Series in Optical Sciences Vol. 43 (Springer-Verlag, Heidelberg, 1984)

H.I. Smith, E.H. Anderson, A.M. Hawryluk, and M.L. Schattenburg, Planar Techniques for Fabricating X-Ray Diffraction Gratings and Zone Plates (pp. 51–61)

IEEE International Symposium on Information Theory, St. Jovite, Quebec, Canada
September 26–30, 1983

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1983 IEEE SOS/SOI Technology Workshop, Jackson Hole, Wyoming
October 4–6, 1983

C.V. Thompson and H.I. Smith, Silicon-on-Insulator by Surface-Energy-Driven Secondary Recrystallization in Ultra-Thin Films

Segundo Symposium de Ingenieria Biomedica, Madrid, Spain
October 5–7, 1983

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B. Howland and A. Medina, A Novel Eye Testing Chart

Third Lerchendahl Conference on Systems Science, Technical University of Norway, Trondheim, Norway
October 10–12, 1983

M.A. Jenkins, The Role of Equations in Nial

3rd IEEE ASSP Workshop on Multi-Dimensional Digital Signal Processing, Lake Tahoe, California
October 19–21, 1983

F.U. Dowla and J.S. Lim, Relationship Between Autoregressive Signal Modeling and Maximum Likelihood Method for Spectral Estimation

1983 IEEE International Symposium on Ultrasonics, Atlanta, Georgia
October 31–November 2, 1983

D-P. Chen, A Variational Method for Estimation of the SAW Electromechanical Coupling Coefficient

E.M. Garber and H.A. Haus, Synthesis of High Performance Compact Saw Filters with Nonuniformly Spaced Fingers

N.A. Whitaker, Jr. and H.A. Haus, Backward Wave Effects in Acoustic Scattering Measurements

1983 IEEE International Conference on Computer Design/VLSI in Computers, Port Chester, New York
October 31–November 3, 1983

Papers in Proceedings

J.L. Wyatt, Jr., C. Zukowski, L.A. Glasser, P. Bassett, and P. Penfield, Jr., The Waveform Bounding Approach to Timing Analysis of Digital MOS IC's (pp. 392–395)

1983 Meeting, IRIS Specialty Group on Active Systems, Naval Postgraduate School, Monterey, California
November 1–3, 1983

J.H. Shapiro and P.L. Mesite, Performance Analyses for Doppler and Chirped Laser Radars

25th Annual Meeting of the Division of Plasma Physics, American Physical Society, Los Angeles, California
November 7–11, 1983

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B. Coppi and L. Sugiyama, Paths to the Second Stability Region (p. 1210)

P. Detregiache, B. Coppi, S.C. Cowley, R.M. Kulsrud, and E.J. Valeo, Velocity Space Instabilities for Two Component Plasmas (p. 1113)

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C.C. Wong, C.J. Keavney, H.A. Atwater, C.V. Thompson, and H.I. Smith, Zone Melting Recrystallization of InSb Films on Oxidized Si Wafers

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M. Kardar and M. Kaufman, Competing Criticality of Short- and Infinite-Range Interactions on the Cayley Tree: Effective Dimensional Variation

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T.T. Nguyen, J.H. Shapiro, A.K. Wong, and D.J. Epstein, Atmospheric Optical Communications for Local Area Networks (pp. 416-420)

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December 12-17, 1983

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V.W. Zue and D.P. Huttenlocher, Computer Recognition of Isolated Words from Large Vocabularies: Lexical Access Using Partial Phonetic Information

28.2 Journal Papers Published

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28.3 Journal Papers Accepted for Publication

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