

## 29. Publications and Reports

### 29.1 Meeting Papers Presented

**Speech Research Symposium, ITT Defense Communications, San Diego, California**  
January 8–9, 1985

D.W. Griffin and J.S. Lim, A New Model Based Speech Analysis/Synthesis System

**SRC Workshop on Post-Shrink Devices, Charlottesville, North Carolina**  
January 10–11, 1985

A.C. Warren, D.A. Antoniadis, H.I. Smith, and J. Melngailis, Modification of Silicon Electronics Band Structure Using Submicron Period Gate Electrodes

**165th Meeting, American Astronomical Society, Tucson, Arizona**  
January 13–16, 1985

Abstracts in Bull. Am. Astron. Soc. 16:4 (1984)

J.T. Armstrong, P.T.P. Ho, J.M. Jackson, and A.H. Barrett, H76<sup>α</sup> Emission from the Sgr A "15 km/s Cloud" (p. 959)

C.L. Bennett, C.R. Lawrence, and B.F. Burke, 5 GHz Source Counts from the MG Survey (p. 1015)

**Winter '85 Meeting on "Optical Remote Sensing of the Atmosphere," Incline Village, Nevada**  
January 15–18, 1985

Papers in Proceedings

J. H. Shapiro, Laser Radar System Theory

**SPIE 5th Meeting on "Advances in Display V Technology," Los Angeles, California**  
January 21–25, 1985

Papers in SPIE Vol. 526 (1985)

J.A. Stein, J.A. Rajchman, J. Melngailis, and D.A. Summa, A Display Based on Switchable Zero Order Diffraction Grating Light Valves (pp. 105–112)

**1985 Midwinter Meeting, Association for Research in Otolaryngology, Clearwater Beach, Florida**  
February 3–7, 1985

Abstracts in Proceedings

M.C. Liberman and M.C. Brown, Intracellular Labeling of Olivocochlear Efferents Near the Anastomosis of Aort in Cats (p. 13)

X-D. Pang and W.T. Peake, Effects of Stapedius Muscle Contraction on Stapes and Incus Position and on Acoustic Transmission in the Cat (p.72)

T.F. Weiss and D.M. Freeman, Theoretical Studies of Frequency Selectivity, Tonotopic Organization, and Compressive Nonlinearity of Stereociliary Tuft Motion in the Alligator Lizard Cochlea (p. 177)

**Third International Conference on Optical Fiber Sensors, San Diego, California**

February 13–14, 1985

Papers in Proceedings

S-T. Ho, S. Ezekiel, J.R. Haavisto, and J.J. Danko, Optical Feedback Phase–Autolocking of a Semiconductor Laser (pp. 134–135)

**Workshop on Advanced Microwave Sounding Techniques, Appleton Rutherford Laboratory, London, England**

March 7–8, 1985

D.H. Staelin, Aperture Synthesis Temperature Sounding from Geosynchronous Orbit

**Topical Meeting on Picosecond Electronics and Optoelectronics, Incline Village, Nevada**

March 13–15, 1985

G.G. Shahidi, E.P. Ippen, and J. Melngailis, Submicron–Gap Photoconductive Switching in Silicon

**1985 March Meeting, American Physical Society, Baltimore, Maryland**

March 25–29, 1985

Abstracts in Bull. Am. Phys. Soc. 30:3 (1985)

D. Andelman, M. Kardar, and M. Kaufman, Divergences and Zeroes of Critical Amplitudes (p. 372)

A. Antonelli, E. Tarnow and J.D. Joannopoulos, Ground State Properties of  $As_2Se_3$  (p. 479)

Y. Bar–Yam and J.D. Joannopoulos, The Entropy of Defects and Diffusion in Silicon (p. 257)

A.N. Berker, R.G. Caflish and M. Kardar, Reentrant Phase Diagram of Krypton on Graphite and the Helical Potts–Lattice–Gas Model (p. 597)

K.L. D'Amico, D.E. Moncton, P.M. Horn, S.E. Nagler, R.J. Birgeneau, and E.D. Specht, The Rotational Transition of Monolayer Krypton on Single Crystal Graphite (p. 335)

J.O. Indekeu and A.N. Berker, Quadruple Reentrance ( $\text{Na}_d\text{Na}_d\text{Na}-(1)$ ) from the Frustrated Spin–Gas Model of Liquid Crystals (p. 380)

E. Kaxiras, Y. Bar–Yam, and J.D. Joannopoulos, The Reconstruction of the (111) Polar Surface of GaAs (p. 313)

D. Kleppner, The Needs of "Small" Physics (invited paper) (p. 392)

D.H. Lee, J.D. Joannopoulos, and J.W. Negele, Monte–Carlo Scheme for the Antiferromagnetic Quantum Heisenberg Model (p. 552)

J. Licini, M. Kastner, and D.J. Bishop, Negative Magnetoresistance of Quasi–One Dimensional Silicon MOSFETS (p. 483)

S.G.J. Mochrie, Algebraic Decay States in Two Dimensions (p. 345)

K.M. Rabe and J.D. Joannopoulos, Ab–initio Relativistic Pseudopotential Study of the Zero Temperature Structural Properties of SnTe and Fb (p. 466)

L. Salamanca–Riba, J.M. Gibson, G. Roth, A.R. Kortan, D. Dresselhaus, and R.J. Birgeneau, Electron Beam Induced Commensurate to Glass Phase Transition on  $\text{SbCl}_5$  — GIC (p. 240)

J.H. Stathis and M.A. Kastner, Annealing of Photoinduced Defects in Amorphous  $\text{SiO}_2$  (p. 235)

E.R. Youngdale, D.M. Larsen, and R.L. Aggarwal, Observation of Anti–Crossing Between Zeeman Split  $1st(T_2)$  States of Opposite Spin for Donors in Germanium (p. 366)

**International Conference on Stochasticity and Turbulence in Plasmas, University of California, Santa Barbara, California**

March 26–29, 1985

A.K. Ram, K. Hizanidis, and A. Bers, Induced Stochasticity of Electrons Confined in a Static Well by a Frequency Modulated Wave

**IEEE International Conference on Acoustics, Speech and Signal Processing, Tampa, Florida**

March 26–29, 1985

Papers in ICASSP 85

A.M. Aull and V.W. Zue, Lexical Stress Determination and Its Application to Large Vocabulary Speech Recognition (paper 41.1.1–41.1.4, pp. 1549–1552)

S.R. Curtiss, A.V. Oppenheim, and J.S. Lim, Reconstruction of Two-Dimensional Signals from Threshold Crossing (paper 28.2.1–28.2.4, pp. 1057–1060)

F. Dowla and J.S. Lim, Resolution Property of Improved Maximum Likelihood Method (paper 21.8.1–21.8.3, pp. 820–822)

M. Feder and E. Weinstein, Optimal Multiple Source Location Estimation Via the EM Algorithm (paper 45.6.1–45.6.4, pp. 1762–1765)

O. Ghitza, A Measure of In-Synchrony Regions in the Auditory Nerve Firing Patterns as a Basis for Speech Vocoding (paper 13.9.1–13.9.4 pp. 505–508)

J.R. Glass and V.W. Zue, Detection of Nasalized Vowels in American English (paper 41.7.1–41.7.4, pp. 1569–1572)

D.W. Griffin and J.S. Lim, A New Model-Based Speech Analysis/Synthesis System (paper 13.11.1–13.11.4, pp. 513–516)

C.E. Hauck, C.S. Bamji, and J. Allen, The Systematic Exploration of Pipelined Array Multiplier Performance (paper 38.3.1–38.3.4, pp. 1461–1464)

D. Martinez and J.S. Lim, Implicit Motion Compensated Noise Reduction of Motion Video Scenes (paper 10.10.1–10.10.4, pp. 375–378)

E.E. Milios and S.H. Nawab, Interpretation-Guided Signal Processing via Protocol Analysis (paper 42.16.1–42.16.4, pp. 1660–1663)

P.L. Van Hove and J.G. Verly, A Silhouette-Slice Theorem for Opaque 3-D Objects (paper 24.14.1–24.14.4, pp. 933–936)

**Nineteenth Annual Conference on Information Sciences and Systems, Baltimore, Maryland**

March 27–29, 1985

Papers in Proceedings

S. Shih and J.H. Lang, Adaptive Observers Which Utilize Discrete Adaptation Laws (pp. 177–182)

**109th Meeting, Acoustical Society of America, Austin, Texas**

April 8–12, 1985

Abstracts in J. Acoust. Soc. Am. Vol. 77, Suppl. No. 1, Spring 1985

C.A. Bickley and K. Stevens, Modeling Study of Influences of Vocal-Tract Configurations

on Glottal Behavior (p. S86)

L.D. Braidā, Y. Ito, C.M. Reed, and N.I. Durlach, Optimum Central Processors for Spectral-Shape Discrimination (p. S90)

L.D. Braidā, P.M. Zurek, N.I. Durlach, and P. Milner, Application of Articulation Theory to the Study of Speech Reception by the Hearing Impaired (p. S68)

D.K. Bustamante and L.D. Braidā, Principal Component Amplitude Compression of Speech for the Sensorineural Hearing Impaired (p. S80)

T.D. Carrell, The Relationship Between Intelligibility and Naturalness in High Quality Synthetic Speech (p. S10)

M.H. Cohen and J.S. Perkell, Evaluation of an Alternating Magnetic Field System for Transducing Articulatory Movements in the Midsagittal Plane (p. S99)

R. Goldberg, N.A. Macmillan, and L.D. Braidā, A Perceptual-Anchor Interpretation of a Categorical Phenomena and Vowel Continuum (p. S7)

C.B. Huang, Perceptual Correlates in the Tense/Lax Distinction in General American English (p. S8)

G. Kidd, Jr., R. Berkovitz, K.N. Stevens, and D.M. Green, Hearing Thresholds at High Frequencies: Results Obtained Using a New Technique (p. S62)

D.J. Klatt, A Shift in Formant Frequencies is Not the Same as a Shift in the Center of Gravity of a Multifformant Energy Concentration (p. S7)

J. Koehnke, H.S. Colburn, and N.I. Durlach, Performance in Several Binaural-Interaction Experiments (p. S49)

D.F. Leotta, W.M. Rabinowitz, C.M. Reed, N.I. Durlach, and L.D. Braidā, Preliminary Evaluation of a Synthetic Tadoma System (p.S97)

K.C. Moore and V.W. Zue, The Effect of Speech Rate on the Application of Low-Level Phonological Rules in American English (p. S53)

J.S. Perkell and M.N. Cohen, Design and Construction of an Alternating Magnetic Field System for Transducing Articulatory Movements in the Midsagittal Plane (p. S99)

M. Randolph, The Application of a Hierarchical Classification Technique to Speech Analysis (p. S10)

C.H. Shadle, Acoustic Characteristics of Fricative and Fricative-like Models (p. S85)

S. Shattuck-Hufnagel, Segmental Speech Errors Occur Earlier in Utterance Planning Than Certain Phonetic Processes (p. S84)

R.M. Uchanski, C.M. Reed, N.I. Durlach, and L.D. Braidā, Analysis of Phoneme and Pause

Durations in Conversational and Clear Speech (p. S54)

J. Vaissiere, The Use of Allophonic Variations of /a/ in Automatic Continuous Speech Recognition of French (p. S12)

**Physics Colloquium, University of Rochester, Rochester, New York**

April 15, 1985

J.N. Hewitt, Gravitational Lenses: Search, Discovery, New Sources

**1985 Sherwood Theory Conference, Madison, Wisconsin**

April 15–17, 1985

Abstracts in Proceedings

P. Bonoli and R. Englade, Electron Landau Absorption of a Realistic Spectrum of Lower Hybrid Waves During Current Drive (3P–22)

R.A. Cairns, V. Fuchs, M.M. Shoucri, K. Hizanidis, and A. Bers, A One-Dimensional Theory for Lower Hybrid Current Drive (1R–13)

B. Coppi, Comparison of Proposed Ignition Experiments and Plasma Theory Issues (1S–16)

P. Detregiache, B. Coppi, S. Cowley, R. M. Kulsrud, and F. Pegoraro, High Frequency Modes in Toroidal Plasmas (1Q–21)

R. Englade, B. Coppi, and S. Migliuolo, Effects of Localized Modes in Ion Heat Transport (2Q–20)

V. Fuchs, M.M. Shoucri, A. Bers, and R.A. Cairns, Lower-Hybrid Current Drive in the Presence of an Ohmic Electric Field (1P–17)

J. Martinelli and L. Sugiyama, Electron Energy Transport in TFTR(3P–20)

F. Pegoraro and F. Porcelli, Asymptotic Theory of Fluids Waves in Relativistic Plasmas (3Q–16)

F. Porcelli and B. Coppi, Ion-Viscosity Effects on  $m^{\circ} = 1$  Modes (1Q–22)

F. Porcelli and B. Coppi, Theory of Fishbone Oscillations (2R–22)

J.J. Ramos, Quadratic Form Approach to Collisionless Internal Kink Modes in Finite-Larmor-Radius Regimes (3Q–19)

L. Sugiyama, Heating in Igniting Plasmas (3Q–11)

D. Tetreault, Are Tokamak Disruptions Caused by MDH Clump Instability ? (1S–17)

**Material Research Society Symposium, San Francisco, California**  
April 15–19, 1985

Papers in Proceedings

Y. Bar–Yam and J.D. Joannopoulos, The Entropy of Defects and Diffusion in Silicon (pp. 123–127)

C.C. Wong, H.I. Smith, and C.V. Thompson, Secondary Grain Growth and Graphoepitaxy in Thin Au Films Gratings (pp. 35–40)

**IEEE Communications Society, Communication Theory Workshop, Sanibel Island, Florida**  
April 21–24, 1985

A.V. Oppenheim, Knowledge–Based Signal Processing

**Speech Tech '85, New York, New York**  
April 22–25, 1985

V.W. Zue and D.S. Cyphers, The MIT Spire System

**Thirteenth CANDE Workshop, Apache Junction, Arizona**  
April 28–30, 1985

C.S. Bamji, C.E. Hauck, and J. Allen, A Design by Example Regular Structure Generator

**Optics and Quantum Electronics Seminar, Massachusetts Institute of Technology, Cambridge, Massachusetts**  
May 1, 1985

P. Kumar, Squeezed States: Issues of Generation (invited paper)

**Sixth Topical Conference on Radio Frequency Plasma Heating, Pine Mountain, Georgia**  
May 13–15, 1985

S.C. Luckhardt, K–I. Chen, R.D. Kaplan, M.J. Mayberry, M. Porkolab, R. Rohatgi, and J.N.S. Villasenor, Lower–Hybrid Current Drive and the Anomalous Doppler Instability on the Versator II Tokamak

M.J. Mayberry, M. Porkolab, K–I. Chen, R.D. Kaplan, S.C. Luckhardt, and R. Rohatgi, The Frequency Scaling of the Lower–Hybrid Current Drive Density Limit on the Versator II Tokamak

R. Rohatgi, K–I. Chen, G. Bekefi, R.D. Kaplan, S.C. Luckhardt, M.J. Mayberry,

M. Porkolab, and J.N.S. Villasenor, Lower-Hybrid Wave Detection on Versator II Using Microwave Scattering

**1985 Chapel Hill Conference on Very Large Scale Integration, University of Carolina, Chapel Hill, North Carolina**  
May 15-17, 1985

Papers in Proceedings

L.A. Glasser, A UV Write-Enabled PROM (pp. 61-65)

L.A. Glasser, Delay, Noise Margin, and Reliability in Digital Circuits (pp. 309-328)

M.D. Matson, Optimization of Digital MOS VLSI Circuits (pp. 109-126)

**OSA/IEEE CLEO '85, Conference on Lasers and Electrooptics, Baltimore, Maryland**  
May 21-24, 1985

Abstracts in Digest of Technical Papers

R.S. Bondurant and J.H. Shapiro, Non-Classical Two-Beam Photon Correlations in Degenerate Four-Wave Mixing

J.G. Fujimoto, S. DeSilvestri, W.P. Ippen, C.A. Pugliafito, R. Margolis, and A.R. Oseroff, Femtosecond Optical Ranging in Biological Systems (p. 104)

E.P. Ippen and J.G. Fujimoto, Applications of Femtosecond Optics (p. 38)

M.N. Islam, P.D. Dresselhaus, and E.P. Ippen, Picosecond Nonlinear Absorption and Degenerate Four-Wave Mixing in GaInAsP (p. 160)

L.F. Mollenaur, R.H. Stolen, and M.N. Islam, Experimental Demonstration of Soliton Propagation in Long Fibers: Loss Compensated by Raman Gain (p. 80)

**Annual Meeting, American Association for the Advancement of Science, Los Angeles, California**  
May 26-31, 1985

Abstracts in Abstracts of Papers

V.W. Zue, Human-Machine Communication by Voice: Computer Recognition of Speech (p. 57)

**Symposium on Electron, Ion, and Photon Beams, Portland, Oregon**  
May 29-31, 1985

Papers in Proceedings

S.Y. Chou, H.I. Smith, and D.A. Antoniadis, Sub-100-nm Channel Length Transistors Fabricated Using X-Ray Lithography

J. Melngailis, C.R. Musil, E.H. Stevens, M. Utlaut, E.M. Kellogg, R.T. Post, M.W. Geis, and R.W. Mountain, The Focused Ion Beam as an Integrated Circuit Restructuring Tool

H.I. Smith, A Statistical Analysis of UV X-Ray and Charged-Particle Lithographies

A.C. Warren, I. Plotnik, E.H. Anderson, M.L. Schattenburgh, D.A. Antoniadis, and H.I. Smith, Fabrication of Sub-100nm Linewidth Periodic Structures for Study of Quantum Effects from Interference and Confinement in Si Inversion Layers

**166th Meeting, American Astronomical Society, Charlottesville, Virginia**

June 3-7, 1985

C.L. Carilli, J.W. Dreher, and R.A. Perley, High Resolution Observations of the Rotation Measure Across Cygnus A

J.W. Dreher, W.J. Welch, and K.J. Johnston, A Good Look at W49A

J.N. Hewitt, J.H. Mahoney, G.I. Langston, B.F. Burke, C.L. Bennett, C. R. Lawrence, and E. L. Turner, A Search for Gravitational Lensing: Progress Report

**36th Symposium of the Electromagnetic Wave Propagation, Fairbanks, Alaska**

June 3-7, 1985

Papers in AGARD Conference Proceedings No. 382

M.C. Lee, J. Buchau, H.C. Carlson, Jr., J.A. Klobuchar, and E.J. Weber, Formation and Detection of High Latitude Ionospheric Irregularities (paper 7.4-1 — 7.4-14)

M.C. Lee, J.A. Kong, H.C. Carlson, and S.P. Kuo, Ionospheric Modifications by HF Heaters (paper 5.2-1 — 5.2-10)

**Gordon Conference on Interface Structure and Dynamics, Plymouth, New Hampshire**

June 10-14, 1985

S. Mochrie, Wetting of Ethylene on Graphite

**Semiconductor Research Corporation in Situ Processing Workshop, Chapel Hill, North Carolina**

June 17-18, 1985

J. Melngailis, Focused Ion Beam for I.C. Restructuring and Other Applications

**43rd Annual Device Research Conference, Boulder, Colorado**

June 17–19, 1985

S. Chou, D.A. Antoniadis, and H.I. Smith, Observation of Velocity Overshoot in Deep Submicron (0.08  $\mu\text{m}$ ) Channel MOSFETS in Si

**1985 North American Radio Science Meeting and International IEEE/AP—S Symposium, Vancouver, Canada**

June 17–21, 1985

S.P. Kuo, M.C. Lee, and S.C. Kuo, A Theoretical Model of Artificial Spread F

M.C. Lee, J. Buchau, H.C. Carlson, Jr., J.A. Klobuchar, and E.J. Weber, Polar Ionosphere Irregularities and Possible Source Mechanisms

M.C. Lee and S.P. Kuo, Generation of E Region Density Irregularities by Thermal Plasma Instabilities

**International Meeting on Instabilities and Dynamics of Lasers and Nonlinear Optical Systems, Rochester, New York**

June 18–21, 1985

Papers in R.W. Boyd, M.G. Raymer, and L.M. Narducci (Eds.), Optical Instabilities (Cambridge University Press, England, 1986)

D.J. Harter, Y.B. Band, H. Samuelson, and E.P. Ippen, Stabilization and Passive Mode-Locking of CW Alexandrite Lasers (paper FC3:1—FC3:3)

M. Kuznetsov, S.Z. Tsang, J.N. Walpole, Z.L. Liao, and E.P. Ippen, Chaotic Pulsation of Semiconductor Lasers with a Proton-Bombarded Segment (pp. 281–283)

M.W. Maeda, P. Kumar, and J.H. Shapiro, Observation of Phase-Sensitive Noise in Sodium Vapor (pp. 370–372)

**ACM IEEE 22nd Design Automation Conference, Las Vegas, Nevada**

June 23–26, 1985

Papers in Proceedings

C.S. Bamji, C.H. Hauck, and J. Allen, A Design-by-Example Regular Structure Generator

M.D. Matson, Macromodeling of Digital MOS VLSI Circuits (paper 10.2, pp. 144–151)

**IASTED Robotics and Automation Conference, Lugano, Switzerland**

June 23–26, 1985

J.R. Glass and V.W. Zue, Analysis and Recognition of Nasal Consonants in American English

H.C. Leung and V.W. Zue, Automatic Alignment of Phonetic Transcriptions with Continuous Speech

**IAU Symposium "Dark Matters in the Universe," Princeton University, Princeton, New Jersey**

June 24–28, 1985

J.N. Hewitt, G.I. Langston, J.H. Mahoney, B.F. Burke, E.L. Turner, C.R. Lawrence, and C.L. Bennett, A Search for Gravitational Lensing

**NSF Grantee—User Meeting on Optical Communication Systems, Cornell University, Ithaca, New York**

June 25–26, 1985

Papers in Proceedings

J.H. Shapiro and D.J. Epstein, Atmospheric Optical Communications in Local Area Networks

**7th IFAC/IFORS Symposium on "Identification and System Parameter Estimation," University of York, York, England**

July 3–7, 1985

J.S. Lim, Signal Reconstruction and Estimation from Short-Time Fourier Transform Representation: A Summary of Recent Results

**3rd Topical Meeting on Coherent Laser Radar: Technology and Applications, Great Malvern, Worcestershire, England**

July 7–11, 1985

Papers in Proceedings

J.H. Shapiro, The Correlation Scales of Laser Speckle in the Heterodyne Detection (pp. 41–44)

**XIVth International Conference on the Physics of Electronic and Atomic Collisions, Stanford University, Palo Alto, California**

July 24–31, 1985

D.E. Pritchard, Trapping and Cooling Neutral Atoms

**1985 Gordon Conference on Nonlinear Optics and Lasers, Wolfeboro, New Hampshire**

July 29 – August 2, 1985

P. Kumar, Generation of Squeezed States by Degenerate 4-Wave Mixing (invited paper)

**US/Japan Workshop on RF Current Drive Plasma Laboratory of Princeton University,  
Princeton, New Jersey**  
August 5–7, 1985

S. Luckhardt, Current Drive Experiments on the Versator II Tokamak

**Gordon Conference on Molecular Electronics Spectroscopy, Wolfboro, New Hampshire**

August 12–16, 1985

E.P. Ippen, Femtosecond Dephasing Studies (invited paper)

**Snow Symposium V, Cold Regions Research and Engineering Laboratory, Hanover,  
New Hampshire**  
August 13–15, 1985

Abstracts in Proceedings

F.C. Lin, J.K. Lee, and J.A. Kong, Radar Backscattering from Snow-Covered Ice (p. 17)

**Symposium on the Mechanics of Hearing, Boston, Massachusetts**  
August 13–16, 1985

Papers in Proceedings

D.M. Freeman and T.F. Weiss, On the Role of Fluid Inertia and Viscosity in Stereociliary Tuft Motion: Analysis of Isolated Bodies of Regular Geometry

X.D. Pang and W.T. Peake, How Do Contractions of the Stapedius Muscle Alter the Acoustic Properties of the Ear?

J.J. Rosowski, L.H. Carney, T.J. Lynch III, and W.T. Peake, The Effectiveness of External and Middle Ears in Coupling Acoustic Power Into the Cochlea

**International Symposium on Antennas and EM Theory, (ISAE), Beijing, China**  
August 24–26, 1985

Y.Q. Jin and J.A. Kong, Strong Fluctuation Theory of Random Medium and Applications in Remote Sensing

**Seventh International Free Electron Laser Conference, Tahoe City, California**  
September 8–13, 1985

Abstracts in Proceedings

G. Bekefi, Microwave and Millimeter Wave Emission from Raman Free Electron Laser with Different Wiggler Configurations (K 3)

G. Bekefi, R.E. Shefer, S.C. Tasker, and I. Deutsch, Electron Emission from a Relativistic, Field Emission Diode with a Velvet Covered Cathode (E 2)

J. Fajans, G. Bekefi, D. Knowles, B. Lax and Y.Z. Yin, Collective (Raman) Free-Electron Laser Gain Measurements (D 3)

**COMPINT '85, International Computer Conference, Montreal, Canada**

September 9–12, 1985

J. Allen, Computer Aided Design for High-Performance Integrated Circuits

**International Conference on Integrated Optical Circuits Engineering II, Cambridge, Massachusetts**

September 15–20, 1985

Papers in Proceedings

H.A. Haus, N.A. Whitaker, Jr., and M. C. Gabriel, All-Optical Logic Devices Using Group III-V Semiconductor Waveguides (pp. 122–129)

**Conference on "Speech Signal Processing for the Hearing Impaired," Weissman Center on Mental Retardation and Human Development and the Project Phoenix of Madison Inc., Madison, Wisconsin**

September 26–28, 1985

D. Bustamante, Principal Component Approach to Amplitude Compression (invited paper)

**Seventh Annual Conference of the IEEE Engineering in Medicine and Biology Society, Chicago, Illinois**

September 27–30, 1985

Papers in Proceedings

D.K. Bustamante and L.D. Braida, Principal Component Amplitude Compression of Speech for the Sensorineural Hearing Impaired (pp. 1096–1099)

**13th Midwest Solid State Theory Symposium, Notre Dame University, Notre Dame, Indiana**

September 29 – October 1, 1985

Papers in Proceedings

M. Kaufman, Random-Filled Critical Behavior

**Workshop on "New Trends in Quantum Optics and Electrodynamics," University of Rome, Rome, Italy**  
September 30 – October 4, 1985

P. Kumar and J.H. Shapiro, Photodetection of Squeezed States

**1985 International Geoscience and Remote Sensing Symposium, University of Massachusetts, Amherst, Massachusetts**  
October 7–9, 1985

Papers in Digest

A.C. Briançon and D.H. Staelin, Modelling the Three-Dimensional Macrostructure of Atmospheric Temperature Fields for the Purpose of Remote Sensing ((pp. 357–362)

**1985 IEEE International Conference on Computer Design, Port Chester, New York**  
October 7–10, 1985

Papers in Proceedings

V.W. Zue, Acoustic Phonetic Approaches to Speech Recognition (invited paper) (pp. 749–752)

**1985 Annual Meeting, Optical Society of America, Washington, D.C.**  
October 14–18, 1985

Abstracts in Digest of Technical Papers (J. Opt. Soc. Am. Vol. 2, No. 13 (1985))

J.G. Fujimoto and T.K. Yee, Analysis of Strong Light–Matter Interaction Using a Dressed Propagator Approach (p. 30)

P.L. Gould, G.A. Ruff, and D.E. Pritchard, Diffraction of Atoms by Light: The Near—Resonant Kapitza—Dirac Effect (p. 108)

P. Kumar and S–T. Ho, Generation of Frequency Correlated Laser Beams via Optical Means (p. 18)

M.W. Maeda, P. Kumar, and J.H. Shapiro, Observation of Phase–Sensitive Noise in Sodium Vapor (p. 93)

R.H. Rediker, K.K. Anderson, and C. Corcoran, Coherent Ensemble of Diode Lasers with Feedback in the Fourier Plane (p. 12)

W.J. Tomlinson, H.A. Haus, and R.H. Stolen, Curious Features of Nonlinear Pulse Propagation in Single–Mode Optical Fibers (p. 33)

**Workshop on Hydromagnetic Waves in the Earth's Magnetosphere, Columbia University, New York, New York**

October 17–18, 1985

S.P. Kuo, M.C. Lee, and A. Wolfe, A Model for the Discrete Spectrum of the Resonant ULF Waves

**Workshop on "Squeezed States of Light," Massachusetts Institute of Technology, Cambridge, Massachusetts**

October 21, 1985

H.A. Haus, Squeezed States by Means of Feedback on Laser Oscillator

P. Kumar, Squeezed State Experiments in Resonant Media

J.H. Shapiro, Squeezed State Photodetection

**110th Meeting, Acoustical Society of America, Nashville, Tennessee**

November 4–8, 1985

Abstracts in J. Acoust. Soc. Am. Vol. 78, Suppl. No. 1, Fall 1985

A. Alwan, Acoustic and Perceptual Correlates of Prevoalcalic Pharyngeal and Uvular Consonants in Arabic (p. S82)

C.R. Chapin, An Acoustic and Perceptual Study of the Voiceless Portion of Unvoiced Stop Consonants in American English (p. S55)

M–G. DiBenedetto, Relevance of Time Varying Properties of the First Formant Frequency in Vowel Representation (p. S81)

D.H. Klatt, The Perceptual Reality of a Formant Frequency (p. S81)

M.V. McConnell, P.M. Zurek, P.M. Peterson, and W.M. Rabinowitz, Evaluation of Two–Microphone Speech–Enhancement System (p. S8)

X–D. Pang and W.T. Peake, A Model for Changes in Middle–Ear Transmission Caused by Stapedius–Muscle Contractions (p. S13)

W.M. Rabinowitz, D.A. Frost, and P.M. Peterson, Hearing–Aid Microphone Systems with Increased Directionality (p. S41)

M.S. Wengrovitz, G.V. Frisk, and A.V. Oppenheim, Reconstruction of a Complex Acoustic Field from Its Real or Imaginary Part (p. S30)

P.M. Zurek, Spectral Dominance in Sensitivity to Interaural Delay for Broadband Stimuli (p. S18)

**27th Annual Meeting of the Division of Plasma Physics, American Physical Society,  
San Diego, California  
November 4–8, 1985**

Abstracts in Bull. Am. Phys. Soc. 30:9 (1985)

G. Bekefi, R.E. Shefer, S.C. Tasker, and I. Deutsch, Beam Brightness from a Relativistic, Field Emission Electron Gun with a Velvet Covered Cathode (p. 1538)

A. Bers and G. Francis, Small-Amplitude Energy Dynamics in the Weibel Instability (p. 1563)

P.T. Bonoli, M. Porkolab, and R. Englade, Numerical Modelling of Lower Hybrid Heating and Sawtooth Stabilization in the Alcator C Tokamak (p. 1494)

K. Brau, J. Irby, S. Golovato, B. Lane, M. Mael, R.S. Post, D.K. Smith, E. Sevillano, and J.D. Sullivan, Equilibrium and Stability Issues in the Tara Center Cell (p. 1485)

K-I. Chen, S.C. Luckhardt, M.J. Mayberry, M. Porkolab, R. Rohatgi, D. Kaplan, and J.N.S. Villasenor, Confinement Studies in Versator II 800MHz and 2.45GHz Lower Hybrid Current Drive Experiments (p. 1622)

W.H. Choe, D.J. Sigmar, and J. Ramos, Kinetic Ballooning Mode Equation for High Beta Tokamak Equilibria (p. 1635)

J.W. Coleman and G.A. Hallock, Test Stand Operation/Optimization of the Tara Heavy Ion Beam Probe (p. 1487)

B. Coppi, Physics and Technology of Compact Ignition Experiments (p. 1515)

B. Coppi, Fast and Slow Energy Transport Rates (p. 1631)

B. Coppi, Non-Collision Ion Thermal Transport and Gain in Thermonuclear Ignition Conditions (p. 1632)

B. Coppi and L. Sugiyama, Spatial Inhomogeneity and Time-Dependent Processes in Ignition (p. 1632)

R. Englade and B. Coppi, The Ion Mixing Mode and Anomalous Ion Heat Transport in Tokamaks (p. 1426)

J. Fajans, G. Bekefi, D.S. Knowles, B. Lax, and Y.Z. Yin, Gain Measurements of a Collective (Raman) Free-Electron Laser (p. 1549)

T.J. Farish and R.S. Post, A Magnesium Vapor Jet Neutralizer (p. 1488)

C.L. Fiore and the Alcator Group, Fast Neutral Particle Measurements from Alcator C RF Injected Plasma Experiments (p. 1495)

M.E. Ford, E.S. Marmor, and M.J. Greenwald, Particle Transport in Pellet Fueled

- Alcator C Discharges from Analysis of Visible Continuum–Profiles (p. 1412)
- V. Fuchs, M.M. Shoucri, R.A. Cairns, K. Hizanidis, and A. Bers, A One–Dimensional Model for Lower Hybrid Current Drive (p. 1621)
- R.C. Garner, M.E. Mauel, D.L. Smatlak, and S.A. Hokin, Hot Electron Microin Instabilities in the Constance B Mirror Experiment (p. 1489)
- M.P.J. Gaudreau, R.P. Torti, M.S. Shuster, V.J. Berkman, S.F. Horne, and J.W. Coleman, Detailed Electrical Characterization of the Tara Neutral Beam Injector System (p. 1486)
- M.J. Gerver, B. Lane, M. Mauel, Y–J. Chen, R.H. Cohen, and W.M. Nevins, Nonlinear Behavior of Line–tied Hot Electron Interchange Modes (p. 1488)
- S.N. Golovato, D.K. Smith, K. Brau, W. Guss, J. Irby, M. Mauel, R. Myer, R.S. Post, E. Sevillano, and J.D. Sullivan, Ion Cyclotron Heating in the Tara Central Cell (p. 1485)
- C.C. Gomez, S.M. Wolfe, and I.H. Hutchinson, Thermal Diffusivity Measurements Using Heatpulse Propagation (p. 1496)
- D.L. Goodman, R.S. Post, D.L. Smatlak, and D.K. Smith, RF Pumping of Ions on Constance (p. 1489)
- P.J. Goodrich, K. Brau, R.S. Post, E. Sevillano, and D.K. Smith, Neutral Particle Transport in Tara (p. 1487)
- R.S. Granetz and J.F. Camacho, CAT Scan Movies of Alcator C Plasmas During Pellet Injection (p. 1496)
- M. Greenwald and the Alcator Group, Pellet Fueling Experiments on Alcator C (p. 1412)
- W. Guss, M. Mauel, D.K. Smith, K. Brau, S. Golovato, S. Hiroe, J. Irby, R. Myer, R.S. Post, E. Sevillano, and J.D. Sullivan, High Power ECRH in the Tara Tandem Mirror (p. 1486)
- G.A. Hallock, N. Zaidi, and J.W. Coleman, Design of a Heavy Ion Beam Probe for the Central Cell of Tara (p. 1487)
- F. Hartemann and G. Bekefi, Rotating Electron Ring Free Electron Laser (p. 1635)
- F. Hartemann, G.L. Johnston, G. Bekefi, and R.C. Davidson, Resonant Operation of the Cross–Field Free Electron Laser (p. 1541)
- S. Hiroe, M. Mauel, S. Golovato, W. Guss, J. Irby, R.S. Post, D.K. Smith, E. Sevillano, and J.D. Sullivan, Comparison of ECH Plasmas Produced in Mirror Machines (p. 1488)
- K. Hizanidis, A. Bers, R.A. Cairns, and V. Fuchs, An Analytical Model for the Perpendicular Temperature Enhancement in Lower Hybrid Current Drive (p. 1622)
- K. Hizanidis, A. Ram, and A. Bers, Lower Hybrid Fast Wave Current Drive (p. 1636)

S.A. Hokin, R.S. Post, and D.L. Smatlak, Hot Electron Velocity–Space Diffusion in Constance B (p. 1489)

J. Hopf, R.D. Petrasso, J.L. Terry, W.L. Rowan, S.C. McCool, T.P. Kochanski, and J.A. Snipes, Studies of Injected Impurities in the Texas Experimental Tokamak Using X-Ray Arrays (p. 1568)

I.H. Hutchinson and K. Kato, Diagnosis of Mildly Relativistic Electron Distribution by Cyclotron Emission (p. 1494)

J.H. Irby, Recent Results from the Tara Tandem Mirror Experiments (p. 1581)

K.D. Jacobs and G. Bekefi, Harmonic Generation in a Free Electron Laser with a Linearly Polarized Samarium–Cobalt Wiggler (p. 1542)

K. Kato and I.H. Hutchinson, Measurement of Non–Thermal Electron Distributions Using the Vertical Viewing ECE Diagnostics (p. 1494)

J. Kesner, R.S. Post, and B. Lane, Stabilization of a Tandem Mirror by an Internal Ring Generated Magnetic Divertor (p. 1489)

D.A. Kirkpatrick and G. Bekefi, High Current Raman, Free Electron Laser with a Self–Focussing Helical Wiggler (p. 1543)

D.S. Knowles, J. Wurtele, J. Fajans, and G. Bekefi, FEL Efficiency Enhancement by Wiggler Period Tapering in the Ubitron Regime (p. 1542)

S. Knowlton, B. Lipschultz, S. McDermott, H. Manning, M. Porkolab, Y. Takase, J. Terry, and S. Texter, Bolometric Profile Measurements of RF–Heated Plasmas on Alcator C (p. 1494)

B. LaBombard, B. Lipschultz, I. Hutchinson, and A. Wan, Pressure Asymmetries and Sound Speed Flows in the Alcator C Limiter Shadow Plasma (p. 1413)

B. Lane, M.J. Gerver, and M. Mauer, Axial and Radial Mode Structure of Interchange and Trapped Particle Hot Electron Modes with Linetying (p. 1488)

M.C. Lee and S.P. Kuo, Stimulated Scattering Instability of Lower Hybrid Waves (p. 1626)

X.Z. Li and J. Kesner, An Axisymmetric Pumping Scheme for the Thermal Barrier in a Tandem Mirror (p. 1474)

B. Lipschultz, B. LaBombard, H. Manning, J. Terry, J. Rice, and the Alcator Group, Determination of Impurity Generation Processes During Lower–Hybrid Heating Experiments on Alcator C (p. 1413)

E. Lou, A.S. Wan, T.F. Yang, and B. Lipschultz, JANUS, a Bi–Directional, Multi–Functional Edge Diagnostic on Alcator C (p. 1497)

S.C. Luckhardt, A. Bers, V. Fuchs, and M.M. Shoucri, The Anomalous Doppler Instability

During Steady-State Lower-Hybrid Current Drive (p. 1634)

S.C. Luckhardt, K-I. Chen, M.J. Mayberry, M. Porkolab, R. Rohatgi, J.N.S. Villasenor, and M. Hayes, Wave Propagation and  $\omega_{pe}$  Emission During Lower-Hybrid Current Drive on the Versator II Tokamak (p. 1621)

H.L. Manning, J.L. Terry, B. Lipschultz, B. Blackwell, and the Alcator Group, Analysis of Impurity Influx During ICRF Experiments (p. 1413)

E.S. Marmor, J.E. Rice, and J.L. Terry, First Observations of Charge Transfer from Excited Neutral Hydrogen to H-like Argon in the Alcator C Tokamak (p. 1413)

M.E. Maul, Stability Measurements of the Hot Electrons in Tara's Axisymmetric Plug (p. 1581)

M.J. Mayberry, M. Porkolab, K-I. Chen, R.D. Kaplan, S.C. Luckhardt, R. Rohatgi, and J.N.S. Villasenor, 2.45GHz Lower-Hybrid Current Drive on Versator II (p. 1622)

F.S. McDermott, D.T. Blackfield, J.D. Moody, R.R. Parker, M. Porkolab, and T.D. Shepard, Wave Coupling to the Alcator C Tokamak Plasma in the Ion Cyclotron Range of Frequencies (p. 1495)

R.L. McNutt, Jr., P.S. Coppi, R.S. Selesnick, J.W. Belcher, and B. Coppi, Plasma Voids and the Bubbling Model of Jupiter's Magnetosphere (p. 1366)

J.D. Moody, F.S. McDermott, M. Porkolab, R.R. Parker, M. Besen, Y. Takase, and the Alcator Group, The Alcator C Ion Bernstein Wave Heating Experiment (p. 1495)

T.G. Moran, K. Brau, S. Golovato, H. Irby, M. Mauer, R.S. Post, D.K. Smith, E. Sevillano, and J.D. Sullivan, Atomic and Molecular Hydrogen Emission in the Tara Tandem Mirror Experiment (p. 1487)

J.C. Moreno, H.L. Manning, E.S. Marmor, J.L. Terry, and the Lower Hybrid Group, Radiated Power from Low Z Impurities During Lower Hybrid Experiments in the Alcator C Tokamak (p. 1494)

R. Myer, S. Golovato, A. Ram, and A. Bers, Theoretical Modeling of Central Cell ICRH on Tara (p. 1488)

A.M. Ono, E.S. Marmor, and J.E. Rice, Radial Profiles of High n Spectra for Highly Stripped Argon in the Alcator C Tokamak (p. 1496)

A. Pachtman and S. Wolfe, Extraordinary Mode Absorption at the Electron Cyclotron Harmonics as a Tokamak Electron Temperature Diagnostic (p. 1496)

J. Parker, M. Greenwald, C. Gomez, and R. Petrasso, Density Fluctuations Following Fuel Pellet Injection on the Alcator C Tokamak (p. 1496)

R.R. Parker, Criteria for Ignition in Alcator-Type Devices (p. 1414)

- F. Pegoraro, P. Detregiache, B. Coppi, S. Cowley, and R. Kulsrud, On Secularities and Geometrical Optics Integration for High Frequency Modes (p. 1458)
- R. Petrasso, K. Wenzel, J. Parker, and M. Greenwald, Giant Impurity Sawtooth Following Pellet Injection in Alcator (p. 1496)
- F. Porcelli, B. Coppi, and S. Migliuolo, Theory of Fishbone Oscillations (p. 1420)
- F. Porcelli, B. Coppi, and S. Migliuolo, Effect of Ion-Ion Collisions on  $m^{\circ} = 1$  Modes (p. 1631)
- M. Porkolab, S. Knowlton, Y. Takase, S. Texter, P. Bonoli, C. Fiore, C. Gomez, R. Granetz, D. Gwinn, S. McCool, F. McDermott, and J. Terry, Lower Hybrid Heating and Sawtooth Stabilization Experiments in Alcator C at Moderate Magnetic Fields (p.1493)
- P.A. Pribyl, Approximation to Toroidal Harmonics (p. 1493)
- A. Ram, K. Hizanidis, and A. Bers, Parallel Wavenumbers on the Ray Trajectories of the Mode-Converted Ion-Bernstein ICRF Wave (p. 1634)
- A. Ram, K. Hizanidis, and A. Bers, Diffusion of Trapped Electrons by Frequency Modulated Waves (p. 1369)
- J.J. Ramos, Free Boundary Modes and Tokamak Beta Limits (p. 1427)
- J.E. Rice, E.S. Marmor, C.L. Fiore, E. Källne, and J. Källne, Observation of Charge Transfer Between Intrinsic Neutral Hydrogen and  $\text{Ar}^{17+}$  in the Alcator C Tokamak (p. 1413)
- R. Rohatgi, K.-I. Chen, G. Bekefi, P.T. Bonoli, R.D. Kaplan, S.C. Luckhardt, M.J. Mayberry, M. Porkolab, and J.N.S. Villasenor, A Study of Lower-Hybrid Wave Propagation on Versator II Using Microwave Scattering (p. 1622)
- F.H. Seguin, J.D. Sullivan, M.E. Mauel, W. Guss, R.S. Post, D.K. Smith, and S. Hiroe, X-ray Diagnostics on the Tara Plug (p. 1486)
- E. Sevillano, K. Brau, S. Golovato, S. Hiroe, P. Goodrich, W. Guss, J. Irby, H. Kesner, M.E. Mauel, T.G. Moran, R.S. Post, D.K. Smith, and J.D. Sullivan, Particle and Power Balance in the Tara Central Cell (p. 1486)
- R.M. Shefer, G. Bekefi, A.T. Drobot, Y.Z. Yin, and R.J. Ying, Rotating Ring Free-Electron Laser-Simulations and Computations (p. 1542)
- T.D. Shepard, M. Besen, F.S. McDermott, R.R. Parker, and M. Porkolab, A Matched Fast Wave Coupler for the Alcator C ICRF Heating (p. 1495)
- M.M. Shoucri, V. Fuchs, A. Bers, and R.A. Cairns, Lower Hybrid Current Drive in the Presence of an Ohmic Electric Field (p. 1621)
- G. Shuy, J. Kesner, X.Z. Li, C.W. Lee, and D.K. Sze, Wall Stabilized Tandem Mirror

Reactor Study (p. 1474)

D.L. Smatlak, S.A. Hokin, R.C. Garner, D.K. Liu, X. Chen, and R.S. Post, Power and Particle Balance in a Hot Electron Quadrupole Mirror (p. 1489)

D.K. Smith, S.N. Golovato, S. Hiroe, K. Brau, P. Goodrich, J. Irby, W. Guss, M.E. Mael, R. Myer, R.S. Post, E. Sevillano, and J. Sullivan, ICRF and ECH in the Tara Anchors and Plugs (p. 1485)

J.A. Stillman, T.W. Fredian, J. Bosco, R.G. Granetz, M. Greenwald, J. Irby, C. Katcher, D.R. Nelson, E. Sevillano, M. Shuster, J.D. Sullivan, and S. Wolfe, MSD—MIT Data Systems (p. 1489)

L. Sugiyama, Self-Consistent Heating Effects in Igniting Plasmas (p. 1560)

J.D. Sullivan, K. Brau, W. Guss, J. Irby, M. Mael, R.S. Post, E. Sevillano, D.K. Smith, S. Hiroe, and F.H. Seguin, X-ray Observations at the Tara Plug and Anchor (p. 1486)

Y. Takase, Energy Confinement Studies of Lower Hybrid Heated and Current Driven Plasmas in Alcator C (p. 1444)

Y. Takase, B. Blackwell, M. Porkolab, and P. Colestock, Generation of Ion Bernstein Waves During  $2\omega_{cH}$  ICRF Heating in Alcator C (p. 1495)

J. Teichman, M.M. Shoucri, V. Fuchs, and A. Bers, Stability of the Runaway Distribution Function (p. 1395)

J.L. Terry, R.S. Granetz, M.J. Greenwald, H.L. Manning, E.S. Marmor, M. Foord, and C. Gomez, Observation of an Increase in Impurity Particle Confinement After Injection of Large Pellets into Alcator C (p. 1412)

S. Texter, S. Knowlton, S. McDermott, M. Porkolab, and Y. Takase, Plasma X-ray Emission in the 20–500 keV Range During Lower Hybrid Current Drive on Alcator C (p. 1494)

R. Torti, J. Coleman, S. Horne, M. Gaudreau, and R.S. Post, Performance of Tara Neutral Beam Injection System (p. 1486)

A.S. Wan, B. Lipschultz, T.F. Yang, and B. LaBombard, Directional Measurements of Edge Electron and Ion Parameters on Alcator C (p. 1413)

P. Woskoboinikow, M. Gerver, J.S. Machuzak, W.J. Mulligan, R.S. Post, and R.J. Temkin, Millimeter Wave Gyrotron Scattering Diagnostic for Fluctuation Studies in Tara (P. 1487)

**1985 American Speech–Language–Hearing Association Conference, Washington, D.C.**

November 22–25, 1985

Abstracts in ASHA Vol. 27, No. 10, October 1985

D. Bustamante, L.D. Braida, and S.V. DeGennaro, Multiband Amplitude Compression in Amplification for the Hearing Impaired (Mini-Seminar) (p. 175)

L.A. Delhorne, C.M. Reed, and N.I. Durlach, A Study of the Reception of Tactile Finger Spelling (p. 81)

C.M. Reed, N.I. Durlach, L.A. Delhorne, and C.L. Farrar, Discrimination of Spectral Shape in Normal and Hearing-Impaired Listeners (p. 117)

**1985 International Electron Devices Meeting, Washington, D. C.**

December 1-4, 1985

Papers in Proceedings

S.Y. Chou, D.A. Antoniadis, and H.I. Smith, Application of the Shubnikov-DeHaas Effect in Characterization of Sub-100-nm Channel Si MOSFETS (paper 24.2, pp. 562-564)

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

December 2-6, 1985

Papers in Proceedings Vol. 61 (1986)

H.A. Atwater, H.I. Smith, and C.V. Thompson, Enhancement of Grain Growth in Ultra-Thin Germanium Films by Ion Bombardment

H.I. Smith, M.W. Geis, C.V. Thompson, and C.K. Chen, Crystalline Films on Amorphous Substrate by Zone Melting and Surface-Energy-Driven Grain Growth in Conjunction with Patterning

J.H. Stathis and M.A. Kastner, Photoinduced Paramagnetic Defects in Amorphous Silicon Dioxide (pp.161-176)

**1985 American Geophysical Union Meeting, San Francisco, California**

December 9-13, 1985

Abstracts in Proceedings

J.A. Kong, Electromagnetic Characterization of Snow and Ice for Active and Passive Remote Sensing

**10th International Conference on Infrared and Millimeter Waves, Lake Buena Vista, Florida**

December 9-13, 1985

Papers in Conference Digest

G. Bekefi, Free-Electron Laser Experiments in Different Wiggler Configurations

(pp. 34–36)

S.P. Kuo, S.C. Kuo, B.R. Cheo, and M.C. Lee, Analysis of the Harmonic Gyrotron Travelling Wave Amplifier (pp. 297–298)

S.P. Kuo and M.C. Lee, Saturation of Cyclotron Maser Instability Driven by an Electron Loss–Cone Distribution (pp. 340–343)

M.C. Lee, J.A. Kong, and S.P. Kuo, Thermal Filamentation Instability of Millimeter Waves in Laboratory Plasmas (pp. 203–204)

## 29.2 Journal Papers Published

J. Allen, Computer Architecture for Digital Signal Processing (IEEE Proc. 73:5, 852–873 (1985))

J. Allen, Scanning the Issue, (IEEE Proc. 73:11, 1539–1540 (1985))

J. Allen, A Perspective on Man–Machine Communication by Speech (IEEE Proc. 73:11, 1541–1550 (1985))

G. Bekefi and J. Fajans, Comments on "Study of Gain, Bandwidth, and Tunability of a Millimeter–Wave Free–Electron Laser Operating in the Collective Regime," [Phys. Fluids 26, 2683 (1983)] (Phys. Fluids 28:10, 3177–3179 (1985))

C.L. Bennett, C.R. Lawrence, and B.F. Burke, Source Counts at 5 Gigahertz from the MG Survey (Astrophys. J. 299, 373–374 (1985))

N.A. Berker and S.R. McKay, Modified Hyperscaling Relation for Phase Transition Under Random Fields (Phys. Rev. B 33:7, 4712–4715 (1986))

G. Bertin and B. Coppi, Bending Waves and Current Disk Model for the Heliosphere (Astrophys. J. 298, part 1, 387–399 (1985))

M. Borgeaud and F.R. Morgenthaler, An Improved Two–Port Magnetoelastic Delay Line (IEEE Trans. Vol. MAG–21, No. 2, pp. 1156–1163, March 1985)

S.I. Chase and M. Kaufman, Renormalization—Group Analysis of Heat Capacity Critical Amplitudes (Phys. Rev. B 33:1, 239–244 (1986))

D.P. Chen and H.A. Haus, Analysis of Metal Strip Saw Gratings and Transducers (IEEE Trans. Vol. SU–32, No. 3, pp. 395–408, May 1985)

S.Y. Chou, H.I. Smith, and D.A. Antoniadis, X–Ray Lithography for Sub 100–nm Channel Length Transistors Using Mask Fabricated with Conventional Photolithography, Anisotropic Etching and Oblique Shadowing (J. Vac. Sci. Technol. B 3:6, 1587–1589 (1985))

S.Y. Chou, H.I. Smith, and D.A. Antoniadis, Sub–100–nm Channel Length Transistors

- Fabricated Using X-Ray Lithography (J. Vac. Sci. Technol. B 4:1, 253–255 (1986))
- S.R. Curtiss, A.V. Oppenheim, and J.S. Lim, Signal Reconstruction from Fourier Transform Sign Information (IEEE Trans. Vol. ASSP–33, No. 3, pp. 643–657, June 1985)
- N. Dagli and C.G. Fonstad, Analysis of Rib Dielectric Waveguide (IEEE J. Vol. QE–21, No. 4, pp. 315–321, April 1985)
- N.I. Durlach, K.J. Gabriel, H.S. Colburn, and C. Tahiotis, Interaural Correlation Discrimination: 11. Relation to Binaural Unmasking (J. Acoust. Soc. Am. 79:5, 1548–1557 (1986))
- J. Fajans, G. Bekefi, Y.Z. Yin, and B. Lax, Microwave Studies of a Tunable Free-Electron Laser in Combined Axial and Wiggler Magnetic Fields (Phys. Fluids 28:6, 1995–2006 (1985))
- J. Fajans, V. Krapchev, A. Ram, and A. Bers, Diffusion of Electrons by Coherent Wavepackets (Physica 14D, 141–160 (1985))
- G. Francis, A.K. Ram, and A. Bers, Finite Temperature Effects on the Space-Time Evolution of Two-Stream Instabilities (Phys. Fluids 29:1, 255–261 (1986))
- J.G. Fujimoto, W.Z. Lin, E.P. Ippen, C.A. Puliafito, and R.F. Steinert, Time-Resolved Studies of Nd: YAG Laser Induced Breakdown: Plasma Formation, Acoustic Wave Generation, and Cavitation (Invest. Ophthalmol. Vis. Sci. 26:12, 1771–1777 (1985))
- G.W. Gabrielsen, A.S. Blix, and H. Ursin, Orienting and Freezing Responses in Incubating Ptarmigan Hens (Physiol. Behav. 34, 925–934 (1985))
- G.W. Gabrielsen and E.N. Smith, Physiological Responses Associated with Feigned Death in the American Opossum (Acta Physiol. Scand. 123, 393–398 (1985))
- P.E. Greenfield, D.H. Roberts, and B.F. Burke, The Gravitationally Lensed Quasar 0957 + 561: VLA Observations and Mass Models (Astrophys. J. 293, 370–386 (1985))
- W.A. Harrison, J.S. Lim, and E. Singer, A New Application of Adaptive Noise Cancellation (IEEE Trans. Vol. ASSP–34, No. 1, pp. 21–27, February 1986)
- F. Hartemann, G. Bekefi, and R.E. Shefer, The Rippled-Field Magnetron (Cross-Field Free Electron Laser) (IEEE Trans. Vol. PS–13, No. 6, pp. 484–491, December 1985)
- H.A. Haus and M.N. Islam, Theory of the Soliton Laser (IEEE J. Vol. QE–21, No. 8, pp. 1172–1188, August 1985)
- P.R. Hemmer, G.P. Ontai, and S. Ezekiel, Precision Studies of Stimulated-Resonance Raman Interactions in an Atomic Beam (J. Opt. Soc. Am. 3:2, 219–230 (1986))
- K. Hizanidis, A. Bers, V. Fuchs, and R.A. Cairns, Analytical Model for the Perpendicular Temperature Enhancement in Low-Hybrid Current Drive (Phys. Fluids 29:4, 1331–1334 (1986))

M.N. Islam, E.P. Ippen, E.G. Burkhardt, and T.J. Bridges, Picosecond Study of Near-Band-Gap Nonlinearities in GaInAsP (J. Appl. Phys. 59:8, 2619–2628 (1986))

C. Jagannath and R.L. Aggarwal, Stress-Induced Electric-Dipole-Allowed Far-Infrared Generation at the Spin-Resonance Frequency in InSb (Phys. Rev. B 32:4, 2243–2247 (1985))

Y.Q. Jin, Wave Approach to Brightness Temperature from a Bounded Layer of Random Discrete Scatterers (Electromagnetics 4, 323–341 (1984))

Y.Q. Jin and J.A. Kong, Strong Fluctuation Theory for Scattering, Attenuation and Transmission of Microwave Through Snowfall (IEEE Trans. Vol. GE-23, No. 5, pp. 754–760, September 1985)

M. Kardar and M. Kaufman. N-Color Spin Models in the Large-N Limit (Phys. Rev. B 31:11, 7282–7284 (1985))

M. Kaufman, Random-Field Critical Behavior (Superlatt. Microstruc. 1:6, 511–515 (1985))

D.A. Kirkpatrick, R.E. Shefer, and G. Bekefi, High Brightness Electrostatically Focused Field Emission Electron Gun for Free Electron Laser Applications (J. Appl. Phys. 57:11, 5011–5016 (1985))

V.B. Krapchev, Enhancement of the Reaction Rate by ICRF Heating (Nucl. Fusion 25:4, 455–461 (1985))

S.P. Kuo and M.C. Lee, Stimulated Scattering Instability of Lower Hybrid Waves (Phys. Fluids 29:4, 1024–1028 (1986))

S.P. Kuo, M.C. Lee, and S.C. Kuo, A Theoretical Model of Artificial Spread F Echoes (Radio Sci. 20:3, 546–552 (1985))

M. Kuznetsov, Pulsations of Semiconductor Laser with a Proton Bombarded Segment: Well Developed Pulsations (IEEE Trans. Vol. QE-21, No. 6, pp. 587–592, June 1985)

M. Kuznetsov, Radiation Loss in Dielectric Waveguide Y-Branch Structures (IEEE J. Vol. LT-3, No. 3, pp. 674–677, June 1985)

D.H. Lee, J.D. Joannopoulos, J.W. Negele, and J.W. Landau, Symmetry Analysis and Monte Carlo Study of a Frustrated Antiferromagnetic Planar (XY) Model in Two Dimensions (Phys. Rev. B 33:1, 450–475 (1986))

J.K. Lee and J.A. Kong, Active Microwave Remote Sensing of an Anisotropic Random Medium Layer (IEEE Trans. Vol. GE-23, No. 6, pp. 910–923, November 1985)

J.K. Lee and J.A. Kong, Passive Microwave Remote Sensing of an Anisotropic Random Medium Layer (IEEE Trans. Vol. GE-23, No. 6, pp. 924–932, November 1985)

J.K. Lee and J.A. Kong, Electromagnetic Wave Scattering in a Two-Layer Anisotropic Random Medium (J. Opt. Soc. Am. 2:12, 2171–2186 (1985))

M.C. Lee and S.P. Kuo, Simultaneous Excitation of Large-Scale Geomagnetic Field Fluctuations and Plasma Density Irregularities by Powerful Radio Waves (*Radio Sci.* 20:3, 539–545 (1985))

N.A. Macmillan and H.L. Kaplan, Detection Theory Analysis of Group Data: Estimating Sensitivity from Average Hit and False Alarm Rates (*Psychol Bull.* 98:1, 185–199 (1985))

F.S. McDermott, G. Bekefi, A.C. England, S.E. Attenberger, D.B. Batchelor, P.H. Edmonds, R.C. Goldfinger, R.R. Kindsfather, E.A. Lazarus, M. Murakami, G.H. Neilson, J.B. Wilgen, and A.J. Wootton, Wave Absorption at the Second Harmonic of the Electron Cyclotron Frequency in a Tokamak Plasma (*Phys. Fluids* 28:8, 2625–2627 (1985))

J. Melngailis, C.R. Musil, E.H. Stevens, M. Utlaut, E.M. Kellogg, R.T. Post, M.W. Geis, and R.W. Mountain, The Focused Ion Beam as an Integrated Circuit Restructuring Tool (*J. Vac. Sci. Technol. B* 4:1, 176–180 (1986))

S. Migliuolo, Quasilinear Saturation of the Kinetic Ion Mixing Mode (*Phys. Fluids* 28:9, 2778–2785 (1985))

L.A. Molter-Orr and H.A. Haus, Multiple Coupled Waveguide Switches Using Alternating  $\Delta\beta$  Phase Mismatch (*Appl. Opt.* 24:9, 1260–1264 (1985))

S.G.J. Mochrie, A.R. Kortan, R.J. Birgeneau, and P.M. Horn, A High Resolution Synchrotron X-Ray Study of the Weakly-Incommensurate Phase of High Stage Bromine Intercalated Graphite (*Condensed Matter* 62, 79–95 (1985))

F.R. Morgenthaler, Control of Magnetostatic Waves in Thin Films by Means of Spatially Nonuniform Bias Fields (*Circuits, Systems, Signal Processing* 4:1–2, 63–88 (1985))

P.E. Moskowitz, P.L. Gould, and D.E. Pritchard, Deflection of Atoms by Standing Wave Radiation (*J. Opt. Soc. Am. B* 2:11, 1784–1799 (1985))

K.S. Nathan, P.W. Rosenkranz, and D.H. Staelin, Temperature Profile Retrieval by Two Dimensional Filtering (*J. Climate Appl. Meteorol.* 24:6, 517–524 (1985))

M.P. Nightingale and J.O. Indekeu, Examination of the Necessity of Complete Wetting Near Critical Points in Systems with Long-Range Forces (*Phys. Rev. B* 32:5, 3364–3366 (1985))

J.S. Perkell and W.L. Nelson, Variability in Production of the Vowels /i/ and /a/ (*J. Acoust. Soc. Am.* 77:5, 1889–1895 (1985))

D.E. Pritchard and P.L. Gould, Experimental Possibilities for Observation of Unidirectional Momentum Transfer to Atoms from Standing-Wave Light (*J. Opt. Soc. Am. B* 2:11, 1799–1804 (1985))

Y-K. Pu and S. Migliuolo, Finite- $\beta$  Stabilization of the Kinetic Ion Mixing Mode (*Phys. Fluids* 28:6, 1722–1726 (1985))

C.M. Reed, K.I. Schultz, L.D. Braid, N.I. Durlach, Discrimination and Identification of

Frequency-Lowered Speech in Listeners with High-Frequency Hearing Impairment (J. Acoust. Soc. Am. 78:6, 2139-2141 (1985))

D.H. Roberts, P.E. Greenfield, J.N. Hewitt, B.F. Burke, and A.K. Dupree, The Multiple Images of the Quasar 0957 + 561 (Astrophys. J. 293, 356-369 (1985))

P.W. Rosenkranz, Pressure Broadening of Rotational Bands. I. A Statistical Theory (J. Chem. Phys. 83:12, 6139-6144 (1985))

J.J. Rosowski, W.T. Peake, T.J. Lynch III, R. Leong, and T.F. Weiss, A Model for Signal Transmission in an Ear Having Hair Cells with Free-Standing Stereocilia: II Macromechanical Stage (Hearing Res. 20, 139-155 (1985))

D.P. Schneider, C.R. Lawrence, M. Schmidt, J.E. Gunn, E.L. Turner, B.F. Burke, and V. Dhawan, Deep Optical and Radio Observations of the Gravitational Lens System 2016 + 112 (Astrophys. J. 294, 66-69 (1985))

W.F. Schreiber and D.E. Troxel, Transformation Between Continuous and Discrete Representations of Images: A Perceptual Approach (IEEE Trans. Vol. PAMI-7, No. 2, pp. 178-186, March 1985)

J.H. Shapiro, Correlation Scales of Laser Speckle in Heterodyne Detection (Appl. Opt. 24:12, 1883-1888 (1985))

J.H. Shapiro, Precise Comparison of Experimental and Theoretical SNRs in CO<sub>2</sub> Laser Heterodyne Systems: Comments (Appl. Opt. 24:9, 1245-1247 (1985))

H.I. Smith, A Statistical Analysis of UV, X-Ray and Charged-Particle Lithographies (J. Vac. Sci. Technol. B 4:1, 148-153 (1986))

K.N. Stevens, Spectral Prominences and Phonetic Distinctions in Language (Speech Commun. 4, 137-144 (1985))

C.V. Thompson, Secondary Grain Growth in Thin Films of Semiconductors: Theoretical Aspects (J. Appl. Phys. 58:2, 763-772 (1985))

N.P. Vlannes and F.R. Morgenthaler, Examination of Magnetostatic Waves by New Optical and Induction Probes (J. Appl. Phys. 57:1, 3721-3723 (1985))

A.C. Warren, I. Plotnik, E.H. Anderson, M.L. Schattenburg, D.A. Antoniadis and H.I. Smith, Fabrication of Sub-100nm Linewidth Periodic Structures for Study of Quantum Effects from Interference and Confinement in Si Inversion Layers (J. Vac. Sci. Technol. B 4:1, 365-368 (1986))

T.F. Weiss and R. Leong, A Model for Signal Transmission in an Ear Having Hair Cells with Free-Standing Stereocilia: III Micromechanical Stage (Hearing Res. 20, 157-174 (1985))

T.F. Weiss and R. Leong, A Model for Signal Transmission in an Ear Having Hair Cells with Free-Standing Stereocilia: IV Mechanoelectric Transduction Stage (Hearing Res. 20, 175-195 (1985))

T.F. Weiss, W.T. Peake, and J.J. Rosowski, A Model for Signal Transmission in an Ear Having Hair Cells with Free-Standing Stereocilia: I Empirical Basis for Model Structure (Hearing Res. 20, 131–138 (1985))

J.L. Wyatt, Monotone Sensitivity of Nonlinear Nonuniform RC Transmission Lines, with Application to Timing Analysis of Digital MOS Integrated Circuits (IEEE Trans. Vol. CAS-32, No. 1, pp. 28–33, January 1985)

J.L. Wyatt, Jr., Alternate Conditions for Uniqueness of the Steady State in Nonlinear Circuits with Time-Dependence Sources (IEEE Trans. Vol. CAS-32, No. 10, pp. 1076–1079, October 1985)

Y.E. Yang, J.A. Kong, and Q. Gu, Time Domain Perturbational Analysis of Nonuniformly Coupled Transmission Lines (IEEE Trans. Vol. MTT-33, No. 11, pp. 1120–1130, November 1985)

E.R. Youngdale, D.M. Larsen, and R.L. Aggarwal, Observation of Anticrossing Between Zeeman-Split  $1s(T_2)$  States of Opposite Spin for AS Donors in Germanium (Phys. Rev. B 32:6, 3938–3946 (1985))

J.J. Zayhowski, C. Jagannath, R.N. Kershaw, D. Ridgley, K. Dwight, and A. Wold, Picosecond Time-Resolved Photoluminescence Studies of Exciton-Magnetic Polaron Complexes in  $Cd_{1-x}Mn_xSe$  (Solid State Commun. 55:11, 941–945 (1985))

V.W. Zue, The Use of Speech Knowledge in Automatic Speech Recognition (IEEE Proc. 73:11, 1602–1615 (1985))

C.A. Zukowski and J.L. Wyatt, Jr., Sensitivity of Nonlinear One-Port Resistor Network (IEEE Trans. Vol. CAS-31, No. 12, pp. 1048–1051, December 1984)

P.M. Zurek, Acoustic Emission from the Ear: A Summary of Results from Humans and Animals (J. Acoust. Soc. Am. 78:1, 340–344 (1985))

### 29.3 Journal Papers Accepted for Publication

G. Bekefi, J.S. Wurtele, and I.H. Deutsch, Free-Electron-Laser Radiation Induced by a Periodic Dielectric Medium (Phys. Rev. A)

C.L. Bennett, C.R. Lawrence, B.F. Burke, J.N. Hewitt, and J. Mahoney, The MIT-Green Bank (MG) 5 GHz Survey (Astrophys. J. Suppl.)

R.J. Birgeneau and P.M. Horn, Two Dimensional Rare Gas Solids (Science)

C. Chomsky, Analytic Study of the Tadoma Method: Language Abilities of Three Deaf-Blind Subjects (J. Speech Hear. Res.)

B. Coppi and L. Sugiyama, Spatial Inhomogeneity and Time-Dependent Processes in Ignition Experiments (Comments on Plas. Phys. Contr. Fusion)

N.I. Durlach, L.D. Braida, and Y. Ito, Towards a Model for Discrimination of Broadband Signals (J. Acoust. Soc. Am.)

T.H. Dupree, Large Amplitude Ion Holes (Phys. Fluids)

T.H. Dupree, Growth of Phase Space Holes Near Linear Instability (Phys. Fluids)

Q. Gu and J.A. Kong, Transient Analysis of Single and Coupled Lines (IEEE Trans. (MTT))

H.A. Haus and Y. Yamamoto, Theory of Feedback-Generated Squeezed States (Phys. Rev. A)

S.T. Ho, S. Ezekiel, J.R. Haavisto, and J.J. Danko, Optical Feedback Phase-Stabilization of a Semiconductor Laser (IEEE J. (LT))

S-T. Ho, P. Kumar, and J.H. Shapiro, Vector Field Quantum Model of Degenerate Four-Wave Mixing (Phys. Rev. A)

J. Koehnke, H.S. Colburn, and N.I. Durlach, Performance in Several Binaural-Interaction Experiments (J. Acoust. Soc. Am.)

M. Kuznetsov, Coupled Wave Analysis of Multiple Waveguide Systems: The Discrete Harmonic Oscillator (IEEE J. (QE))

C.R. Lawrence, C.L. Bennett, J.N. Hewitt, G.I. Langston, S.E. Klotz, B.F. Burke, and K.C. Turner, 5 GHz Radio Structure and Optical Identifications of Sources from the MG Survey. II. Maps and Finding Charts (Astrophys. J. Suppl.)

K.W. Leong and J.H. Shapiro, Phase and Amplitude Uncertainties in Multimode Heterodyning (Optics Commun.)

S.C. Luckhardt, K-I. Chen, M.J. Mayberry, M. Porkolab, Y. Terumichi, G. Bekefi, F.S. McDermott, and R. Rohatgi, Particle Confinement and the Anomalous Doppler Instability During Combined Inductive and Lower-Hybrid Current Drive (Phys. Fluids)

S. Migliuolo, The Field Swelling and Mirror Modes: Connection of the Two Instabilities (J. Geophys. Res.)

B.R. Musicus and R.W. Johnson, Multichannel Relative-Entropy Spectrum Analysis (IEEE Trans. (ASSP))

B.M. Ocko, R.J. Birgeneau, and J.D. Litster, Crossover to Tricritical Behavior at the Nematic to Smectic A Transition: An X-Ray Scattering Study (Condensed Matter)

F. Porcelli and S. Migliuolo, Ion Viscosity Stabilization of Resistive Internal Kink Modes (Phys. Fluids)

C.M. Rappaport and F.R. Morgenthaler, Localized Hyperthermia with Electromagnetic Arrays and the Leaky Wave Throughguide Applicator (IEEE Trans. (MTT))

D.P. Schneider, J.E. Gunn, E.L. Turner, C.R. Lawrence, J.N. Hewitt, M. Schmidt, and B.F. Burke, The Third Image, the Lens Redshift, and New Components of the Gravitational Lens 2016 + 112 (*Astron. J.*)

P.M. Zurek, Consequences of Conductive Auditory Impairment for Binaural Hearing (*J. Acoust. Soc. Am.*)

## **29.4 Letters to the Editor Published**

H. Chou and S. Ezekiel, Wavelength Stabilization of Broadband Semiconductor Light Sources (*Optics Lett.* 10:12, 612–614 (1985))

J.G. Fujimoto, S. DeSilvestri, E.P. Ippen, C.A. Puliafito, R. Margolis, and A. Oseroff, Femtosecond Optical Ranging in Biological Systems (*Optics Lett.* 11:3, 150–152 (1986))

P.L. Gould, G.A. Ruff, and D.E. Pritchard, Diffraction of Atoms by Light: The Near-Resonant Kapitza-Dirac Effect (*Phys. Rev. Lett.* 56:8, 827–830 (1986))

K. Hizanidis, Steady State Solution of the Fokker-Planck Equation Combined with Unidirectional Quasilinear Diffusion Under Detailed Balance Conditions (*Phys. Lett. A* 109:7, 325–330 (1985))

R.G. Hulet, E.S. Hilfer, and D. Kleppner, Inhibited Spontaneous Emission by a Rydberg Atom (*Phys. Rev. Lett.* 55:20, 2137–2140 (1985))

M.N. Islam, E.P. Ippen, E.G. Burkhardt, and T.J. Bridges, Picosecond Nonlinear Absorption and Four-Wave Mixing in GaInAsP (*Appl. Phys. Lett.* 47:10, 1042–1044 (1985))

D. Izraelevitz, Some Results on the Time-Frequency Sampling of the Short-Time Fourier Transform Magnitude (*IEEE Trans. Vol. ASSP-33*, No. 6, pp. 1611–1613, December 1985)

S.K. Jain and S. Ezekiel, Stabilization of External Optical Feedback Phase in a Semiconductor Laser (*Electron. Lett.* 21:21, 957–958 (1985))

E. Kaxiras, Y. Bar-Yam, J.D. Joannopoulos, and K.C. Pandey, (2 x 2) Reconstructions of the [111] Polar Surfaces of GaAs (*Phys. Rev. B (Rapid Commun.)* 33:6, 4406–4409 (1986))

P. Kumar and J.H. Shapiro, Observation of Raman-Shifted Oscillation Near the Sodium D Lines (*Optics Lett.* 10:5, 226–228 (1985))

M. Kuznetsov, Theory of Bistability in Two-Segment Diode Lasers (*Optics Lett.* 10:8, 399–401 (1985))

J.C. Licini, D.J. Bishop, M.A. Kastner, and J. Melngailis, Aperiodic Magnetoresistance Oscillations in Narrow Inversion Layers in Si (*Phys. Rev. Lett.* 55:27, 2987–2990 (1985))

M.W. Maeda, P. Kumar, and J.H. Shapiro, Observation of Optical Phase-Sensitive Noise on a Light Beam Transmitted Through Sodium Vapor (*Phys. Rev. A (Rapid Commun.)* 32:6, 3803–3806 (1985))

M.J. Mayberry, M. Porkolab, K-I. Chen, A.S. Fisher, D. Griffin, R.D. Kaplan, S.C. Luckhardt, J. Ramos, and R. Rohatgi, The Frequency Scaling of the Lower-Hybrid Current Drive Density Limit in Tokamak Plasmas (Phys. Rev. Lett. 55:8, 829-832 (1985))

B.R. Musicus, Fast MLM Power Spectrum Estimation from Uniformly Spaced Correlations (IEEE Trans. Vol. ASSP-33, No. 4, pp. 1333-1335, October 1985)

M.G. Prentiss and S. Ezekiel, Observation of Intensity Dependent Fluorescence Lineshape Asymmetry for Two-level Atoms in a Standing Wave Field (Phys. Rev. Lett. 56:1, 46-49 (1986))

A.K. Ram, K. Hizanidis, and A. Bers, Trapped Electron Stochasticity Induced by Frequency-Modulated Waves (Phys. Rev. Lett. 56:2, 147-150 (1986))

J.H. Shapiro, M.C. Teich, B.E.A. Saleh, P. Kumar, and G. Saplakoglu, Semiclassical Theory of Light Detection in the Presence of Feedback (Phys. Rev. Lett. 56:11, 1136-1139 (1986))

E.D. Specht, R.J. Birgeneau, K.L. D'Amico, D.E. Moncton, S.E. Nagler, and P.M. Horn, The Freezing Transition of Monolayer Xenon on Single Crystal Graphite (J. de Physique - Lettres 45, L561 (1985))

M.S. Stix, Phase Plane Analysis of Passively Mode-Locked Dye Laser (Optics Lett. 10:6, 279-281 (1985))

M.S. Stix Erratum: Phase Plane Analysis of Passively Mode-Locked Dye Laser [Optics Lett. 10:6, 279 (1985)] (Optics Lett. 10:9, 466 (1985))

A.C. Warren, D.A. Antoniadis, H.I. Smith, and J. Melngailis, Surface Superlattice Formation in Silicon Inversion Layers Using 0.2  $\mu\text{m}$ -Period Grating-Gate Electrodes (IEEE Electr. Dev. Lett. Vol. EDL-6, No. 6, pp. 294-296, June 1985)

C.C. Wong, H.I. Smith, and C.V. Thompson, Surface-Energy-Driven Secondary Grain Growth in Thin Au Films (Appl. Phys. Lett. 48:5, 335-337 (1986))

J.L. Wyatt, Jr., Signal Delay in RC Mesh Networks (IEEE Trans. Vol. CAS-32, No. 5, pp. 507-510, May 1985)

## 29.5 Letters to the Editor Accepted for Publication

S.Y. Chou, D.A. Antoniadis, and H.I. Smith, Observation of Electron Velocity Overshoot in Sub 100-nm-Channel MOSFETS in Silicon (IEEE Trans. (ED))

B.R. Musicus, Comment on "Dice, Entropy, and Likelihood" by B. Roy Frieden (Proc. IEEE)

F. Zarinetchi and S. Ezekiel, Observation of Lock-in Behavior in a Passive Gyroscope (Optics Lett.)

## 29.6 Special Publications

Y. Bar-Yam and J.D. Joannopoulos, Microscopic Theory of Low and High Temperature Dynamics of Intrinsic Defects in Silicon (Proceedings Thirteenth International Conference on Defects in Semiconductors, Coronado, California, August 12–17, 1984), pp. 261–267

B.F. Burke, Astronomical Interferometry on the Moon, in W. Mendell (Ed.), Lunar Bases and Space Activities of the 21st Century (Lunar and Planetary Institute, Houston, Texas, 1986), pp. 251–291

J.S. Perkell and D.H. Klatt (Eds.), Invariance and Variability in Speech Processes (Lawrence Erlbaum Associates, Publishers, Hillsdale, New Jersey, 1986), 604 pages

J.H. Shapiro and P. Kumar, Proceedings of the MIT Endicott House Workshop on "Squeezed States of Light," October 21, 1985, 245 pages

D.H. Staelin, M.M. Colavita, and M. Shao, Planetary Searches Using Optical Astrometric Interferometers, in M.D. Papagiannis (Ed.), The Search for Extraterrestrial Life: Recent Developments (D. Reidel Publishing Company, Dordrecht, The Netherlands, 1985), pp. 59–63

K.N. Stevens, Vibration Modes in Relation to Model Parameters – Chapter 20, in K.N. Stevens and M. Hirano (Eds.)

## 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]*

- 504 Stephanie Seneff, Pitch and Spectral Analysis of Speech Based on an Auditory Synchrony Model (January 1985)
- 505 Richard Goldhor, Representation of Consonants in the Peripheral Auditory System: A Modeling Study of the Correspondence Between Response Properties and Phonetic Features (February 1985)
- 506 Christine Shadle, The Acoustics of Fricative Consonants (March 1985)
- 507 Cyrus S. Bamji, A Design by Example Regular Structure Generator (February 1985)
- 508 Robert C. Armstrong, Procedural Layout of A High-Speed Floating-Point Arithmetic Unit (June 1985)
- 509 Susan R. Curtis, Reconstruction of Multidimensional Signals from Zero Crossings (June 1985)
- 510 B.R. Musicus and A.M. Kabel, Maximum Entropy Pole-Zero Estimation (August 1985)
- 511 Avidesh Zakhor, Error Properties of Hartley Transform Algorithms (October 1985)

- 512 J.S. Perkell and M.H. Cohen, An Alternating Magnetic Field System for Tracking Multiple Speech Articulatory Movements in the Midsagittal Plane (February 1986)
- 513 Michael S. Wengrovitz, The Hilbert–Hankel Transform and its Application to Shallow Water Ocean Acoustics (January 1986)
- 514 Anthony J. Silva, Reconstruction of Undersampled Periodic Signals (January 1986)
- 515 Michael A. Isnardi, Modeling the Television Process (May 1986)
- 516 Evangelos E. Miliotis, Signal Processing and Interpretation using Multilevel Signal Abstractions (June 1986)
- 517 David Izraelevitz, Reconstruction of Two–Dimensional Signals from the Fourier Transform Magnitude (May 1986)
- 518 Webster P. Dove, Knowledge–Based Pitch Detection (June 1986)

