

## **Appendices**

Appendix A Publications and Papers Presented

Appendix B Current RLE Personnel

Appendix C RLE Research Support Index



## Appendix A. RLE Publications and Papers Presented

The first section of this bibliography includes papers and talks presented by RLE faculty, staff and students during 1990 and is in alphabetical order by conference name. Reprints of these papers may be obtained by contacting the authors directly.

Section 2 includes an alphabetical listing by author of journal articles that were published, accepted or submitted for publication. Book chapters by RLE authors are listed in Section 3. Section 4 of this bibliography lists RLE general publications and technical reports, and Section 5 is a list of RLE theses submitted during 1990. Section 6 contains miscellaneous publications.

### A.1 Meeting Papers

#### A.1.1 Papers Presented

- Acoustical Society of America Meeting*, College Park, Pennsylvania, May 20-25, 1990.
- Huffman, M.K. "An Acoustic Study of the Timing of Contextual Nasalization in English."
- Perkell, J.S., and M.L. Matthies. "Timing of Upper Lip Protrusion Gestures for the Vowel /u/."
- Rabinowitz, W.M., D.R. Henderson, C.M. Reed, L.A. Delhorne, and N.I. Durlach. "Continuing Evaluation of a Synthetic Tadoma System."
- Rankovic, C.M., and P.M. Zurek. "Rollover with High-Frequency Emphasis."
- Ravicz, M.E., J.J. Rosowski, and H.F. Voigt. "Acoustic Impedance Measurements in the Gerbil Ear."
- Zurek, P.M., and C.M. Rankovic. "Potential Benefits of Varying the Frequency-Gain Characteristic for Speech Reception in Noise."
- Acoustical Society of America*, 120th Meeting, San Diego, California, November 26-30, 1990.
- Huffman, M.K. "The Role of F1 Amplitude in Producing Nasal Percepts."
- Advanced Heterostructure Transistors*, Kailua-Kona, Hawaii, December 3-8, 1990.
- Smith, H.I., K. Ismail, and D.A. Antoniadis. "Investigations of Field-Effect-Controlled Mesoscopic Structures Fabricated with X-ray Nanolithography."
- AIRSAR Workshop 1990 at the Jet Propulsion Laboratory*, Pasadena, California, June 7, 1990.
- Yueh, S.H., J.A. Kong, and R.T. Shin. "Calibration of Polarimetric Radars Using In-Scene Reflectors."
- American Chemical Society Meeting*, Washington, D.C., August 1990.
- Ceyer, S.T. "Collision Induced Absorption of H into Ni(111)."
- American Geophysical Union*, Fall Meeting, San Francisco, California, December 3-7, 1990.
- Ram, A.K., and A. Bers. "Space-Time Analysis of Electromagnetic Instabilities With Application to Auroral Kilometric Radiation."
- American Physical Society Division of Plasma Physics*, 32nd Annual Meeting, Cincinnati, Ohio, November 12-16, 1990.
- Basu, B., and B. Coppi. "Plasma Collective Modes Driven by Velocity Gradients."
- Bers, A., V. Fuchs, and C. Chow. "Single-Pass Absorption in Ion-Cyclotron Heating" (poster session).
- Betti, R., J.U. Brackbill, B. Coppi, and J.P. Freidberg. "Nonlinear Ballooning Modes."
- Chow, C., A.K. Ram, and A. Bers. "Spatio-Temporal Chaos and Quasiperiodicity in the Nonlinear Three Wave Interaction" (poster session).
- Conde, M.E., G. Bekefi, and J.S. Wurtele. "The MIT 35 GHz Free Electron Laser Amplifier."
- Coppi, B. "The Isotopic Effect on Plasma Confinement."
- Coppi, B. "The Ignitor Ultimo Experiment."

- Coppi, B., and F. Pegoraro. "Current Density and Energy Transport in High Temperature Plasmas."
- Coppi, A.C., and B. Coppi. "Excitation of Macroscopic Plasma Modes Under Fusion Burn Conditions."
- Coppi, B., R.C. Englade, M. Nassi, F. Pegoraro, L.E. Sugiyama. "Current Density Transport, Confinement and Fusion Burn Conditions."
- Englade, R., P.T. Bonoli, M. Porkolab, and A. Kritz. "Simulations of Electron Cyclotron Heating in CIT with a Combined Code."
- Englade, R., and B. Coppi. "Anomalous Thermal Transport and Plasma Collective Modes."
- Kupfer, K., A. Bers, and A.K. Ram. "Stochastic Electron Transport Induced by Lower-Hybrid Current Drive Wave Fields" (poster session).
- Migliuolo, S. "Resistive Internal Modes in High Temperature Plasmas."
- Nassi, M., L.E. Sugiyama, S. Jardin, and N. Pomphrey. "Free Boundary Simulation of Ignition in a High Field Tokamak."
- Ram, A.K., C. Chow, and A. Bers. "Bandwidth of Scattered Radiation in Laser-Plasma Interactions" (poster session).
- Squire, J.P., M. Porkolab, S.C. Luckhardt, J. Colborn, and J. Villasenor. "Magnetic Fluctuation and Hard X-ray Measurements in High Poloidal Beta Plasma Equilibria on Versator II."
- Sugiyama, L.E., and B. Coppi. "Thermal Transport Coefficient for Well-Confined Ohmic Plasmas."
- Sugiyama, L.E., and M. Nassi. "Free Boundary Simulation of Current Ramp in a High Field Tokamak."
- American Physical Society Meeting*, Anaheim, California, March 12-16, 1990.
- Broekaert, T.P.E., P.F. Bagwell, T.P. Orlando, and C.G. Fonstad. "Resonant Tunneling Diodes and Transistors with One, Two, or Three Dimensional Emitter."
- Marko, J.F. "Density Functional Theory of Phase Transitions in Fluids of Anisotropic Particles."
- Ranganathan, R., J. Kaminsky, B.D. McCombe, K. Elcess, and C.G. Fonstad. "Free Electron Laser Studies of the Saturation of Cyclotron Resonance in a <111>-InGaAs/GaAs Strained Layer Superlattice."
- Rappe, A.M., K.M. Rabe, E. Kaxiras, and J.D. Joannopoulos. "Optimized Pseudopotentials."
- Walrod, D.B., S.Y. Auyang, P.A. Wolff, and W. Tsang. "Enhancement of Optical Nonlinearities Due to Band Nonparabolicity in AllnSb/InSb Superlattices."
- American Physical Society*, Spring Meeting, Washington, D.C., April 16-19, 1990.
- DiRienzo, A.C., G. Bekefi, and J.S. Wurtele. "The M.I.T. 35 GHz Cyclotron Autoresonance Maser (CARM) Amplifier."
- Jerby, E., J.S. Wurtele, and G. Bekefi. "Observations of Periodic Bursts of Emission From a Free Electron Laser Oscillator."
- American Speech, Language and Hearing Association*, Seattle, Washington, November 15-20, 1990.
- Delhorne, L.A., J.M. Besing, C.M. Reed, and N.I. Durlach. "Tactual Cued Speech as a Supplement to Speechreading."
- Anomalous Absorption Conference*, 20th Annual, Traverse City, Michigan, July 9-13, 1990.
- Chow, C.C., A. Bers, and A.K. Ram. "Bandwidth of Scattered Radiation in Laser-Plasma Interactions."
- Applications of Superconductivity Conference*, Snowmass, Colorado, September 24-26, 1990.
- Face, D.W., S.D. Brorson, A. Kazeroonian, T.K. Cheng, G.L. Doll, M.S. Dresselhaus, G. Dresselhaus, E.P. Ippen, T. Venkatesan, X.D. Wu, and A. Inam. "Femtosecond Thermomodulation Studies of Low and High-Tc Superconductors."
- Association for Research in Otolaryngology*, 14th Midwinter Meeting, St. Petersburg, Florida, February 4-8, 1990.
- Davis, R.L. "Conditioning Lesions Promote Primary-Auditory Neurite Regeneration in Vitro."
- Furst, M., J.C. Gardner, R.A. Levine, B. Fullerton, and P. Cuneo. "Localizing the Brainstem Auditory Pathway in Human Magnetic Resonance Images: An Algorithm Matching MR Scans to a Computerized Anatomic Atlas."
- Association for Research in Vision and Ophthalmology*, Annual Meeting, Sarasota, Florida, April 29 - May 5, 1990.

- Huang, D., C. Lin, J. Wang, J.G. Fujimoto, and C.A. Puliafito. "High Resolution Measurement of Corneal and Anterior Eye Structure Using Optical Coherence Domain Reflectometry."
- Chemistry at Surfaces Symposium*, University of California, Irvine, California, October 1990.
- Ceyer, S.T. "Adsorbate Synthesis with Molecular Beams."
- Cold Fusion Conference*, First Annual, Salt Lake City, Utah, March 28-31, 1990.
- Hagelstein, P.L. "Status of Coherent Fusion Theory."
- Conference on Lasers and Electro-Optics/International Quantum Electronics Conference*, Anaheim, California, May 21-25, 1990.
- Basu, S., and P.L. Hagelstein. "Unstable Resonators for XUV Lasers."
- Basu, S., M.H. Muendel, J.P. Braud, D. Tauber, S. Kaushik, and P.L. Hagelstein. "Development of a Table-Top XUV Laser at 196Å in Ni-Like MO."
- Birngruber, R., Y. Hefetz, T. Deutsch, C.A. Puliafito, and J.G. Fujimoto. "Single-Picosecond Pulse Photodisruption in Ocular Structures."
- Braud, J.P. "Whisper-Gallery Mirrors as Unstable Resonators for Short-Wavelength Lasers."
- Corcoran, C., and R.H. Rediker. "Operation of Five Discrete Diode Lasers as a Coherent Ensemble by Fiber-Coupling into an External Cavity."
- DelCorno, A., G. Gabetta, G.C. Reali, V. Kubecek, and J. Marek. "Shortening of Pulses from an Active-Passive Mode-locked Nd:YAG Laser Through Two-photon Absorption in GaAs" (poster session).
- Fujimoto, J.G. "Femtosecond Lasers and Ultrafast Measurement Techniques" (short course).
- Goodberlet, J., J. Jacobson, J.G. Fujimoto, P.A. Schulz, and T.Y. Fan. "Self-starting Additive Pulse Mode-locking of a Diode Pumped Nd:YAG Laser."
- Goodberlet, J., J. Wang, P. Schulz, and J.G. Fujimoto. "Self-Starting Additive Pulse Mode-Locking Characterization with a Ti:Al<sub>2</sub>O<sub>3</sub> Laser."
- Hall, K.L., Y. Lai, E.P. Ippen, and G. Eisenstein. "Short Pulse Gain Saturation in a 1.5 μm Multiple Quantum Well Optical Amplifier."
- Haus, H.A., and Y. Lai. "Quantization of Solitons" (invited paper).
- Helmerson, K., M. Xiao, and D. Pritchard. "Radiative Decay of Densely Confined Atoms."
- Huang, D., J. Wang, J.G. Fujimoto, C. Lin, and C.A. Puliafito. "Measurement of Intraocular Structure by Optical Coherence Domain Reflectometry."
- Huxley, J.M., L.Y. Liu, E.P. Ippen, and H.A. Haus. "Self-Starting Additive Pulse Mode-Locking of 1.06- and 1.32-μm Nd:YAG Lasers."
- Kaushik, S., S. Basu, and P. Hagelstein. "Design Studies of the MIT 194Å Ni-Like MO Laser."
- Moore, J.D., K. Bergman, H.A. Haus, and E.P. Ippen. "Optical Switching Using Fiber Ring Reflectors."
- Pang, L.Y., E.S. Kintzer, and J.G. Fujimoto. "High Power Two-stage Injection Locking of Laser Diode Arrays."
- Phillips, M.R., E.P. Ippen, H.A. Haus, and J.C. Vilek. "Subpicosecond Optical Nonlinearities Below the Band-Edge of InGaAs/InAlAs Quantum Wells."
- Shapiro, J.H., S.R. Shepard, and N.C. Wong. "Fourier Theory, Uncertainty Relations, and Quantum Phase."
- Wong, N.C., K.W. Leong, and J.H. Shapiro. "Nonclassical Intensity Correlation from a Type-I Phase-Matched Optical Parametric Oscillator."
- Conference on Neural Networks for Computing*, Snowbird, Utah, April 1990.
- Wyatt, J.L., Jr., D. Standley, and B. Horn. "Local Computation of Useful Global Quantities Using Linear Resistive-Grid Networks" (poster session).
- Consortium for Superconducting Electronics Signal Distribution and Conditioning Networks*, AT&T Bell Laboratories, Holmdel, New Jersey, October 28, 1990.
- Sheen, D.M., S.M. Ali, D.E. Oates, R.S. Withers, and J.A. Kong. "Current Distribution in Superconducting Strip Transmission Lines."
- Defense Advanced Research Projects Agency (DARPA) Microsystems and Prototyping*

- Meeting*, Semiannual, University of North Carolina, Chapel Hill, North Carolina, October 3, 1990.
- Devadas, S. "Synthesis for Testability."
- Design Automation Conference*, Orlando, Florida, June 24-28, 1990.
- McCormick, S.P., and J. Allen. "Waveform Moment Methods for Improved Interconnection Analysis."
- Device Research Conference*, 48th Annual, Santa Barbara, California, June 25-27, 1990.
- Eugster, C.C., J.A. del Alamo, and M.J. Rooks. "Ballistic Transport in a Novel Grated Quantum Wire."
- Kuo, T.Y., K.W. Goossen, J.E. Cunningham, W.Y. Jan, C.G. Fonstad, and F. Ren. "Monolayer Be d-doped Heterostructure Bipolar Transistor Fabricated Using Doping Selective Base Contact."
- Digital Signal Processing Workshop*, Fourth, Mohawk Mountain House, New Paltz, New York, September 16-19, 1990.
- Alkhairy, A., K. Christian, and J. Lim. "A New Algorithm for Optimal Filter Design with Arbitrary Phase."
- Wornell, G.W., and A.V. Oppenheim. "Fractal Signal Modeling and Processing Using Wavelets."
- Division of Atomic, Molecular, and Optical Physics Conference*, Monterey, California, May 1990.
- Pritchard, D.E. "Atom Optics."
- EESof Users Group Meeting*, Dallas, Texas, May 8, 1990.
- Meskoob, B., J.C. Vlcek, H. Sato, S. Prasad, G. Fonstad, and M-K. Vai. "Characterization of InGaAs/InAlAs/InP Emitter-Down Heterojunction Bipolar Transistors at Microwave Frequencies."
- Electrical Engineering Department Collegium*, Minneapolis, Minnesota, October 18, 1990.
- Melngailis, J. "Focused Ion Beam Microfabrication."
- Electron, Ion and Photon Beam Symposium*, San Antonio, Texas, May 29 - June 1, 1990.
- Murguia, J.E., C.R. Musil, M.I. Shepard, H. Lezec, D.A. Antoniadis, and J. Melngailis. "Merging Focused Ion Beam Patterning and Optical Lithography in Device and Circuit Fabrication."
- Tao, T., J-S. Ro, J. Melngailis, Z. Xue, and H.D. Kaesz. "Focused Ion Beam Induced Deposition of Platinum."
- Electronic Materials Conference*, Santa Barbara, California, June 27-29, 1990.
- Vlcek, J.C., and C.G. Fonstad. "Precise Control of Time-dependent MBE Flux Profiles - Application to InGaAlAs/InP Alloys."
- European Materials Research Society Meeting*, Strasbourg, France, May 1990.
- Kolodziejski, L.A. "Semimagnetic Semiconductor Superlattices: MBE Growth and Characterization."
- European Research Conference on Quantum Optics*, Davos, Switzerland, October 1-5, 1990.
- Kleppner, D. "Eigenstates of Chaos."
- Pritchard, D.E. "Atom Interferometry."
- Evolutionary Biology of Hearing Symposium*, Sarasota, Florida, May 19-24, 1990.
- Rosowski, J.J., and A. Graybeal. "Hearing in Transitional Mammals: Predictions from the Anatomy and Hearing Capabilities of Extant Terrestrial Vertebrates."
- Gordon Conference on the Dynamics of Simple Systems in Chemistry and Physics*, Proctor Academy, New Hampshire, August 15, 1990.
- Kleppner, D. "Eigenstates of Chaos."
- Gordon Conference on Organometallic Chemistry*, Wolfeboro, New Hampshire, June 1990.
- Ceyer, S.T. "The Activation and Reactions of CH<sub>4</sub> on Ni(111)."
- Hawaii Conference on System Sciences*, 23rd, Kona, Hawaii, January 2-7, 1990.
- Devadas, S., A.R. Newton. "Exact Algorithms for Output Encoding, State Assignment and Four-Level Boolean Minimization."
- Human-Machine Interfaces for Teleoperators and Virtual Environments*, Meeting, Santa Barbara, California, March 4-9, 1990.
- Pang, X.D., H.Z. Tan, and N.I. Durlach. "Manual Discrimination of Force."
- Srinivasan, M.A., and R.H. LaMotte. "Tactual Interfaces for Telepresence: The Human Perceiver" (invited talk).

- Srinivasan, M.A., and R.H. LaMotte. "Tactile Discrimination and Representation of Texture, Shape, and Softness" (poster presentation).
- IEEE Communications Workshop*, 20th, Ojai, California, June 23-28, 1990.
- Lim, J.S. "Advanced Television Systems."
- IEEE International Conference on Acoustics, Speech and Signal Processing*, 1990, Albuquerque, New Mexico, April 3-6, 1990.
- Beckmann, P.E., and B.R. Musicus "Fault-Tolerant Round Robin A/D Converter System."
- Brandstein, M.S., P.A. Monta, J.C. Hardwick, and J.S. Lim "A Real-Time Implementation of the Improved MBE Speech Coder."
- Tabei, M., and M. Ueda. "Backprojection with Fourier Series Expansion and FFT."
- Zurek, P.M., J.E. Greenberg, and P.M. Peterson. "Sensitivity to Design Parameters in an Adaptive-Beamforming Hearing Aid."
- IEEE International Conference on Plasma Science*, 1990, Oakland, California, May 21-23, 1990.
- Conde, M.E., G. Bekefi, and J.S. Wurtele. "A 35 GHz Free Electron Laser Amplifier Operating with High Guide Magnetic Field."
- IEEE International Electronics Manufacturing Technology Symposium*, Washington, D.C., October 2-3, 1990.
- McIlrath, M. "CAFE - The MIT Computer Aided Fabrication Environment."
- IEEE International Symposium on Circuits and Systems*, New Orleans, Louisiana, May 1-3, 1990.
- Devadas, S., and K. Keutzer. "Validatable Non-robust Delay-Fault Testable Circuits Via Logic Synthesis."
- Neto, L.S., J. White, and L. Vidigal. "On Exponential Fitting for Circuit Simulation."
- IEEE United States Activities Board Workshop*, Washington, D.C., November 12-13, 1990.
- Lim, J.S. "Progress at MIT's Advanced Television Research Program."
- IEEE Workshop on Micrometer and Submicrometer Lithography*, New Orleans, Louisiana, January 29 - February 2, 1990.
- Melngailis, J. "Focused Ion Beam Lithography and Implantation."
- International Cochlear Implant Symposium*, Second, Iowa City, Iowa, June 3-9, 1990.
- Eddington, D.K. "An Electroanatomical Model of Intracochlear Electrical Stimulation."
- Eddington, D.K. "Psychophysical Correlates of Speech Reception in Subjects Using Multi-channel Cochlear Implants."
- Rabinowitz, W.M., and D.K. Eddington. "Effects of Channel-To-Electrode Mappings with the Symbion Cochlear Prosthesis."
- International Conference of Atomic Physics*, Ann Arbor, Michigan, July 1990.
- Pritchard, D.E. "Atom Optics."
- International Conference on Computer-Aided Design*, Santa Clara, California, November 11-15, 1990.
- Silveira, L.M., A. Lumsdaine, and J.K. White. "Parallel Simulation Algorithms for Grid-Based Analog Signal Processors."
- International Conference on Consumer Electronics*, Rosemont, Illinois, June 3-7, 1990.
- Lim, J.S. "Advanced Television Systems."
- International Conference on Directions in Electromagnetic Wave Modeling*, New York, New York, October 22-24, 1990.
- Nghiem, S.V., J.A. Kong, and T.Le Toan. "Electromagnetic Wave Modeling for Remote Sensing."
- International Conference on Lasers 1990*, San Diego, California, December 10-12, 1990.
- Hung, T-Y., and P.L. Hagelstein. "Whisper Gallery Mirrors Reflectivities from 100Å to 500Å."
- Muendel, M.H., and P.L. Hagelstein. "Short-pulse Glass Slab Amplifier."
- International Conference on Metallorganic Vapor Phase Epitaxy*, Fifth, Aachen, Germany, June 18-21, 1990.
- Karam, N.H., A. Mastrovita, V. Haven, K. Ismail, S. Pennycock, and H.I. Smith. "Patterning and Overgrowth of Nanostructure Quantum Well Wire Arrays."
- International Conference on Molecular Beam Epitaxy*, Sixth, LaJolla, California, August 17-31, 1990.

- Bahl, S.R., W.J. Azzam, and J.A. del Alamo. "Orientation Dependence of Mismatched InAlAs/InGaAs HFETs."
- International Conference on the Physics of Semiconductors*, 20th, Thessaloniki, Greece, August 6-10, 1990.
- Liu, C.T., D.C. Tsui, M. Shayegan, K. Ismail, D.A. Antoniadis, and H.I. Smith. "Observation of Landau Level Splitting in Two-Dimensional Lateral Surface Superlattices."
- Toriumi, A., K. Ismail, M. Burkhardt, D.A. Antoniadis, and H.I. Smith. "Resonant Magneto-Conductance in a Two-Dimensional Lateral-Surface-Superlattice."
- International Conference on Plasma Physics and Controlled Nuclear Fusion Research*, 13th, Washington, D.C., October 1-6, 1990.
- Coppi, B. "The Isotopic Effect on Plasma Confinement."
- Coppi, B., R.C. Englade, M. Nassi, F. Pegoraro, and L.E. Sugiyama. "Current Density Transport, Confinement and Fusion Burn Conditions."
- International Conference on Solid State Devices and Materials*, Sendai, Japan, August 23-26, 1990.
- Kuo, T.Y., K.W. Goossen, J.E. Cunningham, C.G. Fonstad, F. Ren, and W. Jan. "Elimination of Emitter-Mesa Etching and Complete Planarization of Heterojunction Bipolar Transistors via Doping Selective Base Contact and Selective Hole Epitaxy."
- International Geoscience and Remote Sensing Symposium*, Tenth Annual, University of Maryland, College Park, Maryland, May 20-24, 1990.
- Lim, H.H., S.H. Yueh, R.T. Shin, and J.A. Kong. "Correlation Function for a Random Collection of Discrete Scatterers."
- Nghiem, S.V., J.A. Kong, and R.T. Shin. "Study of Polarimetric Response of Sea Ice With Layered Random Medium Model."
- Yueh, S.H., J.A. Kong, and R.T. Shin. "Calibration of Polarimetric Radars Using In-Scene Reflectors."
- Yueh, S.H., J.A. Kong, R.T. Shin, and H.A. Zebker. "Statistical Modelling for Polarimetric Remote Sensing of Earth Terrain."
- International School on Physics of Semiconducting Compounds*, Jaszowiec, Poland, April 1990.
- Kolodziejski, L.A. "Modern Growth Technologies of Semimagnetic Semiconductors."
- International Sherwood Theory Conference*, Annual, Williamsburg, Virginia, April 22-25, 1990.
- Coppi, B., and F. Pegoraro. "Symmetries and Global Transport Equations."
- Kupfer, K., A. Bers, and A.K. Ram. "Guiding Center Stochasticity in a Tokamak."
- Ram, A.K., and A. Bers. "Propagation of Ion-Bernstein Waves in Toroidal Plasmas."
- Sugiyama, L.E., and M. Nassi. "Time Dependent Effects and the Current Ramp Phase in D-T Ignition."
- International Symposium on Electron, Ion, and Photon Beams*, 34th, San Antonio, Texas, May 29-June 1, 1990.
- Moel, A., M.L. Schattenburg, J.M. Carter, and H.I. Smith. "A Compact, Low-Cost System for Sub-100 nm X-ray Lithography."
- Schattenburg, M.L., K. Early, Y-C. Ku, W. Chu, M.I. Shepard, S-C. The, H.I. Smith, D.W. Peters, R.D. Frankel, D.R. Kelly, and J.P. Drumheller. "Fabrication and Testing of 0.1  $\mu$ m-linewidth Microgap X-ray Masks."
- International Test Conference*, Washington, D.C., September 10-13, 1990.
- Devadas, S., and K. Keutzer "Design of Integrated Circuits Fully Testable for Delay-Faults and Multifaults."
- International X-ray Laser Conference*, Second, University of York, York, England, September 17-21, 1990.
- Hagelstein, P.L., S. Basu, M.H. Muendel, J.P. Braud, D. Tauber, S. Kaushik, J. Goodberlet, T-Y. Hung, and S. Maxon. "The MIT Short-Wavelength Laser Project: A Status Report."
- Japan-U.S. Seminar on Focused Ion Beams and Applications*, Second, Portland, Oregon, December 3-7, 1990.
- Dubner, A.D., A. Wagner, J. Melngailis, and C.V. Thompson. "The Role of the Ion/Solid Interaction in Ion Beam Induced Deposition of Gold."
- Hartney, M.A., D.C. Shaver, M.I. Shepard, J.S. Huh, and J. Melngailis. "Silylation Using Focused Ion Beam Lithography."
- Lezec, H.J., C.R. Musil, J. Melngailis, L.J. Mahoney, and J.D. Woodhouse. "Dose Rate



- Effects in Focused Ion Beam Implantation of Si into GaAs."
- Murguia, J.E., M.I. Shepard, J. Melngailis, A.L. Lattes, and S.C. Munroe. "Increase in Silicon CCD Speed with Focused Ion Beam Implanted Channels."
- JASON (July, August, September, October, November) Meeting*, General Atomics Corporation, San Diego, California, July 19, 1990.
- Wornell, G.W. "Wavelet-Based Representations in Fractal Signal Modeling."
- Materials Research Society*, Spring Meeting, San Francisco, California, April 17, 1990.
- Floro, J.A., and C.V. Thompson. "Epitaxial Grain Growth and Orientation Metals Metastability in Heteroepitaxial Thin Films."
- Materials Research Society*, Fall Meeting, Boston, Massachusetts, November 26-December 1, 1990.
- Liu, C.T., D.C. Tsui, M. Santos, M. Shayegan, K. Ismail, D.A. Antoniadis, and H.I. Smith. "Magnetoresistance of Two-Dimensional Electrons in a Two-Dimensional Lateral Surface Superlattice."
- Mechanics and Biophysics of Hearing Meeting*, University of Wisconsin, Madison, Wisconsin, June 24-29, 1990.
- Guinan, J.J., Jr. "Changes in Stimulus Frequency Otoacoustic Emissions Produced by Two-Tone Suppression and Efferent Stimulation in Cats."
- Molecular Beam Epitaxy Conference*, Sixth International, San Diego, California, August 27-31, 1990.
- Singer, R.A., and C.G. Fonstad. "MBE Growth of InGaAs and InAlAs on (111) B InP."
- Vlcek, J.C., and C.G. Fonstad. "Precise Computer Control of the MBE Process - Application to Graded InGaAlAs/InP Alloys."
- Molecular Beam Epitaxy Workshop*, Fifth New England, Cambridge, Massachusetts, April 17, 1990.
- Blanck, H. "Characterization of GaAs Grown Patterned Si-substrates for Optoelectronic Devices."
- Vlcek, J.C. "Control of Compositional Grading and Abruptness in InGaAlAs Heteroepitaxy."
- National Association of Broadcasters Meeting*, Atlanta, Georgia, March 30 - April 4, 1990.
- Lim, J.S. "Research on Advanced Television Systems at MIT."
- NATO Advanced Research Workshop on Resonant Tunneling in Semiconductors: Physics and Applications*, El Escorial, Spain, 1990.
- Bagwell, P.F., T.P. Orlando, and A. Kumar. "Low-Dimensional Resonant Tunneling."
- NATO Advanced Study Institute on Waveguide Optoelectronics*, Glasgow, Scotland, August 3-11, 1990.
- Fujimoto, J.G. "Femtosecond Techniques for the Characterization of Nonlinear and Linear Properties of Waveguide Devices and Studies of All Optical Switching."
- Neural Networks for Computing*, Meeting, Snowbird, Utah, April 3-6, 1990.
- Wyatt, J., D. Standley, and B. Horn. "Local Computation of Useful Global Quantities Using Linear Resistive Grid Networks" (poster session).
- Neutral-Atom Interferometry and DeBroglie Optics Workshop*, Sante Fe, New Mexico, January 15-16, 1990.
- Keith, D. "A Three Grating Atom Interferometer."
- Pritchard, D.E. "Atom Diffraction and Atom Interferometers."
- Nonlinear Optics '90: Materials, Phenomena and Devices*, Kauai, Hawaii, July 16-20, 1990.
- Shapiro, J.H., S.R. Shepard, and N.C. Wong. "Fourier Theory, Number-Ket Causality, and Rational Phase States."
- NSF/CBMS Regional Conference on Wavelets*, University of Lowell, Lowell, Massachusetts, June 11-15, 1990.
- Wornell, G.W., and A.V. Oppenheim. "Wavelet-Based Representations for Fractal Modeling" (poster session).
- OCEANS '90 Conference*, Washington, D.C., September 24-26, 1990.
- Melville, W.K., R.H. Stewart, J.A. Kong, W.C. Keller, D. Arnold, A.T. Jessup, and E. Lamarre. "Measurements of Sea-state Bias at Ku and C Bands."
- Optical Society of America Topical Meeting on Ultrafast Phenomena*, Monterey, California, May 14-17, 1990.

- Brorson, S.D., A. Kazeroonian, J.S. Moodera, D.W. Face, T.K. Cheng, E.P. Ippen, M.S. Dresselhaus, G. Dresselhaus, G.L. Doll, T. Venkatesan, X.D. Wu, and A. Inam. "Femtosecond Thermomodulation Study of Conventional and High-Tc Superconductors."
- Optical Society of America, Annual Meeting, Boston, Massachusetts, November 4-9, 1990.*
- Bergman, K., and H.A. Haus. "Squeezed Pulse Vacuum from Fiber-Ring Interferometer."
- Goodberlet, J., J. Jacobson, G. Gabetta, P.A. Schulz, T.Y. Fan, and J.G. Fujimoto. "Ultra-short Pulse Generation with Additive Pulse Modelocking in Solid State Lasers."
- Keith, D. "Two Particle Correlation Experiments with Massive Particles."
- Kleppner, D. "Eigenstates of Chaos" (invited talk).
- Kolodziejski, L.A. "Chemical Beam Epitaxy for Advanced Optoelectronic Devices."
- Wong, N.C. "Optical Frequency Measurement and Synthesis Using Optical Parametric Oscillators."
- Wong, N.C., K.W. Leong, and J.H. Shapiro. "Quantum Correlation and Absorption Spectroscopy in an Optical Parametric Oscillator."
- Picture Coding Symposium, Cambridge, Massachusetts, March 25-27, 1990.*
- Picard, R.W. "A Staggered-DCT Decreases Perceived Blockiness."
- Pritchard, D.E. "Atom Optics."
- Semiconductor Research Corporation/Defense Advanced Research Projects Agency Computer-Integrated Manufacturing of Integrated Circuits Workshop, Fifth Annual, University of California Berkeley, Berkeley, California, August 15-16, 1990.*
- Troxel, D.E., and M.B. McIlrath. "The MIT Process Flow Representation - Application to Fabrication."
- Society of Magnetic Resonance in Medicine, Ninth Annual Meeting, New York, 1990.*
- Gardner, J.C., M. Furst, R.A. Levine, B. Fullerton, and B.R. Rosen. "An Anatomic Atlas and Mapping Algorithm for Localizing the Brainstem Auditory Pathway on Magnetic Resonance Scans."
- Society of Motion Picture and Television Engineers Technical Conference, 132nd, New York, New York, October 13-17, 1990.*
- Bace, M.M., and J.S. Lim. "A Receiver-Compatible System for Channel Noise Reduction."
- Hajjahmad, I., and J.S. Lim. "Image Coding with Progressive Scanning as an Alternative to Interlaced Scanning."
- Monta, P., and J.S. Lim. "Source Adaptive Processing for ATV System Design."
- Society of Neuroscience, 20th Annual Meeting, St. Louis, Missouri, October 28-November 2, 1990.*
- Melcher, J.R., B.C. Fullerton, J.J. Guinan, Jr., N.Y.S. Kiang, and I.M. Knudson. "Cellular Generators of the Brainstem Auditory Evoked Potential in the Cat" (poster session).
- Society of Photo-Optical Instrumentation Engineers (SPIE) Opto-Electronics Laser 1990 Conference, Los Angeles, California, January 14-19, 1990.*
- Anderson, K.K., M.J. LaGasse, H.A. Haus, and J.G. Fujimoto. "Femtosecond Studies of Nonlinear Optical Switching in GaAs Waveguides Using Time Domain Interferometry."
- DiRienzo, A., and G. Bekefi. "The MIT 35 GHz Cyclotron Autoresonance Maser (CARM) Amplifier."
- Hannon, S.M., and J.H. Shapiro. "Active-Passive Detection of Multipixel Targets."
- SPIE International Society for Optical Engineering, San Diego, California, March 3-17, 1990.*
- LaGasse, M.J., K.K. Anderson, C.A. Wang, H.A. Haus, and J.G. Fujimoto. "Femtosecond Investigations of Optical Switching and  $\chi^{(3)}$  in GaAs Waveguides."
- SPIE International Symposium on Optical and Optoelectronic Applied Science and Engineering, San Diego, California, July 8-13, 1990.*
- Habashy, T.M., M. Moldoveanu, and J.A. Kong. "Inversion of Permittivity and Conductivity Profiles Employing Transverse-Magnetic Polarized Monochromatic Data."
- Speech Research Symposium, Maritime Institute of Technology, Linthicum, Maryland, October 16-17, 1990.*
- Brandstein, M.S., P.A. Monta, J.C. Hardwick, and J.S. Lim. "A Real-Time Implementation of the Improved MBE Speech Coder."

- Symposium on the Evolutionary Biology of Hearing*, Sarasota, Florida, May 1990.
- Rosowski, J.J. "Hearing in Transitional Mammals: Predictions from the Middle-Ear Anatomy and Hearing Capabilities of Extant Mammals" (talk).
- Symposium on Nonlinear Fiber Pulse Processing*, Grasmere, England, September 10-13, 1990.
- Lai, Y., and H.A. Haus. "Quantum Theory of Solitons in Optical Fibers."
- Symposium on Quantum Aspects of Nonlinear Systems*, Essen, Germany, July 16-20, 1990.
- Kleppner, D. "Eigenstates of Chaos."
- Topical Meeting on Ultrafast Phenomena*, Monterey, California, May 14-17, 1990.
- Goodberlet, J., J. Jacobson, J. Wang, and J.G. Fujimoto. "Ultrashort Pulse Generation with Additive Pulse Modelocking in Solid State Lasers: Ti:Al<sub>2</sub>O<sub>3</sub>, Diode Pumped Nd:YAG and Nd:YLF."
- Goodberlet, J., J. Jacobson, J. Wang, and P. Schulz. "Additive Pulse Mode-Locking in Ti:Al<sub>2</sub>O<sub>3</sub> Diode Pumped Nd:YAG, and Nd:YLF."
- Hou, A.S., R.S. Tucker, and E.P. Ippen. "Chirp in Actively Modelocked Diode Lasers."
- Union of Radio Science International Commission F Meeting*, Hyannis, Massachusetts, May 15-17, 1990.
- Melville, W.K., J.A. Kong, R.H. Stewart, W.C. Keller, D. Arnold, A.T. Jessup, and E. Lamarre. "Measurements of Sea-State Bias at Ku and C Bands."
- Nghiem, S.V., J.A. Kong, R.T. Shin, H.A. Yueh, and R.G. Onstott. "Theoretical Models and Experimental Measurements For Polarimetric Remote Sensing of Snow and Sea Ice."
- Nghiem, S.V., J.A. Kong, and T. LeToan. "Application of Layered Random Medium Model to Polarimetric Remote Sensing of Vegetation."
- Union of Radio Science National Meeting*, Boulder, Colorado, January 3-5, 1990.
- Han, H.C., J.A. Kong, T.M. Habashy, and M.D. Grossi. "Principles of VLF Antenna Array Design in Magnetized Plasmas."
- United States-Japan Seminar on Quantum Electronic Manipulation of Atoms and Fields*, Kyoto, Japan, September 3-7, 1990.
- Shapiro, J.H. "Going Through a Quantum Phase."
- US/USSR Symposium on the Physics of Optical Phenomena and Their Use as Probes of Matter*, Fourth Binational, Irvine, California, January 22-26, 1990.
- Fujimoto, J.G. "Femtosecond Photoemission Studies of Image Potential and Electron Dynamics in Metals."
- Workshop on Chaos and Transport in Fluids and Plasmas*, College Park, Maryland, April 26-27, 1990.
- Kupfer, K., A. Bers, and A.K. Ram. "Guiding Center Stochasticity by Electrostatic Waves."
- Workshop on Compound Semiconductor Materials and Devices*, San Francisco, California, February 19-21, 1990.
- Bahl, S.R., and J.A. del Alamo. "Strained InAlAs/n<sup>+</sup>-InGaAs HFETs."

### A.1.2 Papers To Be Presented

- American Astronomical Society Meeting*, 177th, Philadelphia, Pennsylvania, January 13-17, 1991.
- Markert, T., M.L. Schattenburg, T. Isobe, J. Bauer, C. Canizares, J. O'Connor, J. Porter, and H.I. Smith. "Investigations of Materials for Ultra-Thin Window X-ray Detectors."
- American Control Conference*, Boston, Massachusetts, June 1991.
- Annaswamy, A.M., and M.A. Srinivasan. "Adaptive Control for Grasping and Manipulation of Compliant Objects with Compliant Fingerpads."
- American Physical Society*, General Meeting, Cincinnati, Ohio, March 18-22, 1991.
- Alerhand, O.L. "Equilibrium Properties of Steps on Si(100)." *Bull. Am. Phys.* 36(3):587 (1991).
- Bagwell, P.F., and A. Kumar. "Evolution of the Quantized Ballistic Conductance with Increasing Disorder in Narrow Wire Arrays."
- Berker, A.N. "Quenched Fluctuation Induced Second-Order Phase Transitions." *Bull. Am. Phys.* 36(3):439 (1991).
- Liu, C.T., S. Luryi, and P.A. Garbinski. "Quench of Hot-Electron Real-Space-Transfer by Electronic Screening."

- Park, S.L., P.F. Bagwell, A. Yen, D.A. Antoniadis, H.I. Smith, T.P. Orlando, and M.A. Kastner. "Magnetotransport in Multiple Narrow Si Inversion Channels Opened Electrostatically Into a Two-Dimensional Electron Gas."
- Rittenhouse, G., H.I. Smith, J.M. Graybeal, B. Meyerson. "A Novel Structure for a Three-Terminal Superconducting Resonant Tunneling Device."
- Zhao, Y., D.C. Tsui, S.J. Allen, K. Ismail, H.I. Smith, and D.A. Antoniadis. "Spectroscopy of 2-Deg in a Grid Gate Patterned Heterostructure."
- American Vacuum Society Meeting*, Seattle, Washington, Fall 1991.
- Kolodziejski, L.A. "Chemical Beam Epitaxy of II-VI/III-V Heterostructures."
- Association for Research on Otolaryngology*, 15th Midwinter Meeting, St. Petersburg, Florida, February 1991.
- Delgutte, B. "Power-law Behavior of the Discharge Rates of Auditory-nerve Fibers at Low Sound Levels."
- Design Automation Conference*, 28th, San Francisco, California, June 1991.
- Cheng, K-T., S. Devadas, and K. Keutzer. "Robust Delay-Fault Test Generation and Synthesis for Testability Under a Standard Scan Methodology."
- Devadas, S., K. Keutzer, and S. Malik. "A Synthesis-Based Approach to Test Generation and Compaction for Multifaults."
- IEEE International Symposium on Circuits and Systems*, Singapore, June 1991.
- Bryan, M.J., S. Devadas, and K. Keutzer. "Analysis and Design of Regular Structures for Robust Dynamic Fault Testability."
- Ghosh, A., and S. Devadas. "Implicit Depth-First Transversal of Sequential Machines."
- International Conference on Acoustics, Speech, and Signal Processing*, Toronto, Ontario, Canada, May 14-17, 1991.
- Covell, M.M., and J. Richardson. "A New, Efficient Structure for the Short-Time Fourier Transform, with an Application in Code-Division Sonar Imaging."
- Preisig, J.C. "A Robust High Resolution Array Processing Algorithm Based Upon Minmax Criteria."
- Tabei, M., B.R. Musicus, and M. Ueda. "A Maximum Likelihood Estimator for Frequency and Decay Rate."
- Wornell, G.W., and A.V. Oppenheim. "Communication Over Fractal Channels."
- International Conference on Computer Design: VLSI in Computers and Processors*, Cambridge, Massachusetts, October 1991.
- Asher, P., S. Devadas, and A. Ghosh. "Boolean Satisfiability and Equivalence Checking Using General Binary Decision Diagrams."
- Devadas, S., K. Keutzer, and A.S. Krishnakumar. "Design Verification and Reachability Analysis Using Algebraic Manipulation."
- International Symposium on Electron, Ion and Photon Beams*, 35th, Seattle, Washington, May 28-31, 1991.
- Anderson, E.H., V. Bögli, M. Schattenburg, D. Kern, and H.I. Smith. "Metrology of Electron Beam Lithography Systems Using Holographically Produced Reference Samples."
- Chu, W., S.A. Rishton, M.L. Schattenburg, D.P. Kern, and H.I. Smith. "Fabrication of 50 nm Line and Space X-ray Masks in Thick Au Using a 50 keV Electron Beam."
- Ku, Y.C., L-P. Ng, R. Carpenter, K. Lu, and H.I. Smith. "In Situ Stress Monitoring and Deposition of Zero Stress W Absorber for X-ray Masks."
- Moel, A., W. Chu, K. Early, Y.C. Ku, E.E. Moon, M.L. Schattenburg, J.M. Bauer, F. Tsai, F.W. Griffith, L.E. Haas, and H.I. Smith. "Fabrication and Characterization of High-Flatness Mesa-Etched Silicon Nitride X-ray Masks."
- Schattenburg, M.L., K. Li, R.T. Shin, J.A. Kong, and H.I. Smith. "Electromagnetic Calculation of Soft X-ray Diffraction from Nanometer-scale Gold Structures."
- Smith, H.I., S.D. Hector, M.L. Schattenburg, and E.H. Anderson. "A New Approach to High Fidelity E-Beam Lithography Based on an In Situ, Global Fiducial Grid."
- Progress in Electromagnetics Research Symposium*, Cambridge, Massachusetts, July 1-5, 1991.
- Schattenburg, M.L., K. Li, R.T. Shin, J.A. Kong, and H.I. Smith. "Calculation of Soft X-ray Diffraction from Nanometer-Scale Gold Structures Using a Finite-Element Time-Domain Method."

*Society of Photo-Optical Instrumentation Engineers (SPIE) Opto-Electronics Laser 1991 Conference*, Orlando, Florida, April 1-5, 1991.

Green, Jr., T.J., J.H. Shapiro, and M.M. Menon. "Target Detection Performance Using 3-D Laser Radar Images."

Mentle, R.E., and J.H. Shapiro. "Track-While-Image in the Presence of Background."

### A.1.3 Published Meeting Papers

Alerhand, O.L., A.N. Berker, J.D. Joannopoulos, and D. Vanderbilt. "Phase Transitions on Mis-oriented Si(100) Surfaces." *Proceedings of the 20th International Conference on the Physics of Semiconductors*, Thessaloniki, Greece, August 6-10, 1990.

Alerhand, O.L., E.Kaxiras, J.D. Joannopoulos, and G. Turner. "Kinetics and Growth Channels in GaAs Epitaxy on Si(100)." *Proceedings of the 20th International Conference on the Physics of Semiconductors*, Thessaloniki, Greece, August 6-10, 1990.

Anderson, K.K., M.J. LaGasse, H.A. Haus, and J.G. Fujimoto. "Femtosecond Studies of Nonlinear Optical Switching in GaAs Waveguides Using Time Domain Interferometry." *Proceedings of the International Society for Optical Engineering (SPIE)*, 1216:2-12, Los Angeles, California, January 16-19, 1990.

Annaswamy, A.M., and M.A. Srinivasan. "Manipulation of Compliant Objects with Compliant Fingerpads: Identification and Control Issues." *Proceedings of the Conference on Decision and Control*, Hawaii, December 1990.

Ashar, P., S. Devadas, and A.R. Newton. "Testability-Driven Decomposition of Large Finite State Machines." *Proceedings of the International Conference on Computer Design: VLSI in Computers and Processors*, Boston, Massachusetts, September 1990.

Ashar, P., S. Devadas, and K. Keutzer. "Testability Properties of Multilevel Logic Networks Derived From Binary Decision Diagrams." *Proceedings of the Conference on Advanced Research in VLSI*, Santa Cruz, California, March 1991.

Ashar, P., A. Ghosh, S. Devadas, and K. Keutzer. "Implicit State Transition Graphs: Applications to Sequential Logic Synthesis and Test." *Proceedings of the International Conference on*

*Computer-Aided Design*, Santa Clara, California, November 11-15, 1990.

Bahl, S.R., and J.A. del Alamo. "An InAlAs/n<sup>+</sup>-InGaAs Heterostructure Field-Effect Transistor with an In-Enriched Channel." *Proceedings of the Second International Conference on Indium Phosphide and Related Materials*, pp. 100-103, Denver, Colorado, April 23-25, 1990.

Bahl, S.R., and J.A. del Alamo. "A Quantized-Channel InAlAs/n<sup>+</sup>-InGaAs HFET with High Breakdown Voltage." *Extended Abstracts of the Fall Meeting of the Materials Research Society*, EA-21:117-120, Boston, Massachusetts, November 26-December 1, 1990.

Bossi, D.E., W.D. Goodhue, M.C. Finn, K. Rauschenbach, and R.H. Rediker. "Fabrication and Enhanced Performance of Reduced-Confinement GaAlAs Tapered-Waveguide Antennas." *1990 Technical Digest of the Optical Society of America*, Series 5:41-42, Anaheim, California, May 21-26, 1990.

Brandstein, M.S., P.A. Monta, J.C. Hardwick, and J.S. Lim. "A Real-Time Implementation of the Improved MBE Speech Coder." *Proceedings of the 1990 IEEE International Conference on Acoustics, Speech, and Signal Processing*, Albuquerque, New Mexico, April 3-6, 1990.

Broekaert, T.P.E., and C.G. Fonstad. "AlAs Etch-Step Layers for InGaAlAs/InP Heterostructure Devices and Circuits." *Technical Digest of the 1990 International Electron Devices Meeting*, IEEE 1990, pp.339-342, Piscataway, New Jersey.

Bryan, M.J., S. Devadas, and K. Keutzer. "Testability-Preserving Circuit Transformations." *Proceedings of the International Conference on Computer-Aided Design*, Santa Clara, California, November 11-15, 1990.

Butzburger, J., M. Ostendorf, P.J. Price, and S. Shattuck-Hufnagel. "Isolated Word Intonation Recognition Using Hidden Markov Models." *Proceedings of the 1990 IEEE International Conference on Acoustics, Speech, and Signal Processing*, pp. 773-776, Albuquerque, New Mexico, April 3-6, 1990.

Corcoran, C., and R.H. Rediker. "Operation of Five Discrete Diode Lasers as a Coherent Ensemble by Fiber-Coupling into an External Cavity." *1990 Technical Digest of the Optical Society of America*, Series 7:552-554, Anaheim, California, May 21-26, 1990.

- Devadas, S., and K. Keutzer. "An Automata-Theoretic Approach to Behavioral Equivalence." *Proceedings of the International Conference on Computer-Aided Design*, Santa Clara, California, November 11-15, 1990.
- Devadas, S., K. Keutzer, and A. Ghosh. "Recent Progress in VLSI Synthesis for Testability." *Proceedings of the VLSI Test Symposium*, Atlantic City, New Jersey, April 1991.
- Devadas, S., and K. Keutzer. "Design of Integrated Circuits Fully Testable for Delay Faults and Multifaults." *Proceedings of the International Test Conference*, Washington, D.C., September 1990.
- DiRienzo, A., and G. Bekefi. "The MIT 35 GHz Cyclotron Autoresonance Maser (CARM) Amplifier." *Proceedings of the International Society for Optical Engineering (SPIE)*, Vol. 1226, Los Angeles, California, January 16-19, 1990.
- Elfadel, I., and R. Picard. "Miscibility Matrices Explain the Behavior of Grayscale Textures Generated by Gibbs Random Fields." *SPIE Proceedings on Intelligent Robots and Computer Vision IX*, OE/Boston '90, Boston, Massachusetts, November 4-9, 1990.
- Goodberlet, J., J. Jacobson, J.G. Fujimoto, P.A. Schulz, and T.Y. Fan. "Self-starting Additive Pulse Mode-locking of a Diode Pumped Nd:YAG Laser." *Technical Digest of the Conference on Lasers and Electro-Optics*, Anaheim, California, May 21-25, 1990.
- Goodberlet, J., J. Jacobson, J. Wang, P.A. Schulz, T.Y. Fan, and J.G. Fujimoto. "Additive Pulse Modelocking in Ti:Al<sub>2</sub>O<sub>3</sub> Diode Pumped Nd:YAG and Nd:YLF." *Technical Digest of the Ultrafast Phenomena Topical Meeting*, Monterey, California, May 14-17, 1990.
- Goodberlet, J., J. Wang, P.A. Schulz, and J.G. Fujimoto. "Self-starting Additive Pulse Mode-locking Characterization with a Ti:Al<sub>2</sub>O<sub>3</sub> Laser." *Technical Digest of the Conference on Lasers and Electro-Optics*, Anaheim, California, May 21-25, 1990.
- Ghosh, A., S. Devadas, and A.R. Newton. "Heuristic Minimization of Boolean Relations Using Testing Techniques." *Proceedings of the International Conference on Computer Design: VLSI in Computers and Processors*, Boston, Massachusetts, September 1990.
- Ghosh, A., S. Devadas, and A.R. Newton. "Synthesis for Sequential Logic Testability Using Register-Transfer Level Descriptions." *Proceedings of the International Test Conference*, Washington, D.C., September 10-13, 1990.
- Hagelstein, P.L. "Coherent Fusion Mechanisms." *Proceedings of the Conference on Anomalous Processes in Deuterated Metals*, Brigham Young University, Utah, October 1990.
- Hagelstein, P.L. "On the Partial-Wave Method for Self-Energy Calculations in Non-hydrogenic Ions." *Proceedings of the First International Conference on Coherent Radiation Processes in Strong Fields*, Catholic University, Washington, D.C., June 1990.
- Hannon, S.M., and J.H. Shapiro. "Active-Passive Detection of Multipixel Targets." *Proceedings of the International Society for Optical Engineering (SPIE)*, Vol. 1222 (Laser Radar V):2-23 (1990), Los Angeles, California, January 16-19, 1990.
- Keast, C.L., and C.G. Sodini. "A CCD/CMOS Process for Integrated Image Acquisition and Early Vision Signal Processing." *SPIE Proceedings on Charge-Coupled Devices and Solid State Sensors*, pp. 152-161, Santa Clara, California, February 1990.
- Kupfer, K., A. Bers, and A.K. Ram. "Guiding Center Stochasticity in a Tokamak." *Proceedings of the International Sherwood Theory Meeting*, Williamsburg, Virginia, April 23-25, 1990.
- Kupfer, K., A. Bers, and A.K. Ram. "Guiding Center Stochasticity and Transport Induced by Electrostatic Waves." *Proceedings of the Topical Conference on Research Trends in Nonlinear and Relativistic Effects in Plasmas*, LaJolla Institute, LaJolla, California, February 5-8, 1990.
- Lumsdaine, A., J. Wyatt, and I. Elfadel. "Nonlinear Analog Networks for Image Smoothing and Segmentation." *Proceedings of the IEEE International Symposium on Circuits and Systems*, pp. 987-991, New Orleans, Louisiana, May 1-3, 1990.
- McIlrath, M.B., and D.S. Boning. "Integrating Semiconductor Process Design and Manufacture Using a Unified Process Flow Representation." *Proceedings of the Second Rensselaer International Conference on Computer Integrated Manufacturing*, Troy, New York, May 21-23, 1990.
- Melngailis, J., P.G. Blauner, A.D. Dubner, J.S. Ro, T. Tao, and C.V. Thompson. "Focused Ion

- Beam Induced Deposition." *Proceedings of the International Symposium on Process Physics and Modeling in Semiconductor Technology/Electrochemical Society Meeting*, Montreal, Quebec, Canada, May 6-11, 1990.
- Muendel, M.H., and P.L. Hagelstein. "High Repetition Rate, Tabletop X-ray Lasers." *Proceedings of the International Society for Optical Engineering (SPIE)*, Vol. 1229:87-96, Los Angeles, California, January 16-19, 1990.
- Muendel, M.H., and P.L. Hagelstein. "Analysis of a Soft X-ray Frequency Doubler." *Proceedings of the International Conference on Lasers '89*, pp. 34-36, New Orleans, Louisiana, December 3-8, 1989.
- Musicus, B.R., A. Alphas, and A.J. Wei. "A Prototype for a Fault Tolerant Parallel Digital Signal Processor." *Proceedings of the IEEE Application Specific Array Processor Conference*, Princeton, New Jersey, September 5-7, 1990.
- Pritchard, D.E., and B.G. Oldaker. "Light Forces and Atom Diffraction—An Illustrated Summary." *Proceedings, Sixth Rochester Conference on Coherence and Quantum Optics*, (Coherence and Quantum Optics VI:937-942), University of Rochester, Rochester, New York, June 26-28, 1989.
- Ram, A.K., and A. Bers. "Propagation of Ion-Bernstein Waves in Toroidal Plasmas." *Proceedings of the International Sherwood Theory Meeting*, Williamsburg, Virginia, April 23-25, 1990.
- Rosenkranz, P.W. "Oxygen Line Emission as a Measure of Temperature in the Upper Stratosphere and Mesosphere." *Proceedings of the Tenth Annual International Geoscience and Remote Sensing Symposium*, pp. 1185-1188, University of Maryland, College Park, Maryland, May 20-24, 1990.
- Shapiro, J.H., S.R. Shepard, and N.C. Wong. "Coherent Phase States and Squeezed Phase States." *Proceedings, Sixth Rochester Conference on Coherence and Quantum Optics*, (Coherence and Quantum Optics VI), University of Rochester, Rochester, New York, June 26-28, 1989.
- Shapiro, J.H., S.R. Shepard, and N.C. Wong. "A New Number-Phase Uncertainty Principle." *Proceedings, Sixth Rochester Conference on Coherence and Quantum Optics*, (Coherence and Quantum Optics VI), University of Rochester, Rochester, New York, June 26-28, 1989.
- Standley, D.L. "Stability in a Class of Resistive Grid Networks Containing Active Device Realizations of Nonlinear Resistors." *Proceedings of the IEEE International Symposium on Circuits and Systems*, pp. 1474-1477, New Orleans, Louisiana, May 1-3, 1990.
- Stevens, K.N., and C.A. Bickley. "Higher-level Control Parameters for a Formant Synthesizer." *Proceedings of the First International Conference on Speech Synthesis*, pp. 63-66, Autrans, France, 1990.
- Tabei, M., and M. Ueda. "Backprojection with Fourier Series Expansion and FFT." *Proceedings of the 1990 IEEE International Conference on Acoustics, Speech, and Signal Processing*, Albuquerque, New Mexico, April 3-6, 1990.
- Veilleux, N., M. Ostendorf, S. Shattuck-Hufnagel, and P.J. Price. "Markov Modeling of Prosodic Phrases." *Proceedings of the 1990 IEEE International Conference on Acoustics, Speech, and Signal Processing*, pp. 777-780, Albuquerque, New Mexico, April 3-6, 1990.
- Vleck, J.C., and C.G. Fonstad. "Molecular Beams Epitaxial Growth Techniques for Graded-Composition InGaAs/InP Alloys." *Proceedings of the Second International Conference on InP and Related Materials*, pp. 135-138, IEEE 1990, Piscataway, New Jersey.
- Wyatt, Jr., J.L., and M. Ilic. "Time-Domain Reactive Power Concepts for Nonlinear, Nonsinusoidal or Nonperiodic Networks." *Proceedings of the IEEE International Symposium on Circuits and Systems*, pp. 387-390, New Orleans, Louisiana, May 1-3, 1990.
- Yang, W., and A.M. Chiang. "A Full Fill-Factor CCD Imager with Integrated Signal Processors." *Proceedings of the IEEE International Solid State Circuits Conference*, pp. 218-219, San Francisco, California, February 1990.
- Yen, A., R.A. Ghanbari, Y-C. Ku, W. Chu, M.L. Schattenburg, J.M. Carter, and H.I. Smith. "X-ray Masks with Large-Area 100 nm-Period Gratings for Quantum- Effect Device Applications." *Proceedings of the International Conference on Microlithography, Microcircuit Engineering 90*, Leuven, Belgium, September 18-20, 1990.

### A.1.4 Meeting Papers Accepted For Publication

- Bickley, C.A. "Vocal-fold Vibration in a Computer Model of a Larynx." *Proceedings of the Vocal Fold Physiology Conference*, Stockholm, Sweden.
- Halle, M., and K.N. Stevens. "Knowledge of Language and the Sounds of Speech." *Proceedings of the Symposium on Music. Language, Speech, and Brain*. Stockholm, Sweden.
- Huang, C.B. "Effects of Context, Stress, and Speech Style on American Vowels." *Proceedings of the International Conference on Spoken Language Processing '90*, Kobe, Japan.
- Keith, D.W., and D. E. Pritchard. "Atom Optics." *Proceedings of NATO Advanced Study institute on New Frontiers in Quantum Electrodynamics and Quantum Optics*, Istanbul, Turkey.
- Lee, H., S.M. Ali, and J.A. Kong. "Hybrid-Mode Analysis of High-Tc Superconducting Planar Transmission Lines." *Progress in Electromagnetics Research Symposium*, Cambridge, Massachusetts, July 1-5, 1991.
- Stevens, K.N. "Vocal-fold Vibration for Obstruent Consonants." *Proceedings of the Vocal Fold Physiology Conference*, Stockholm, Sweden.
- Anderson, K.K., M.J. LaGasse, C.A. Wang, J.G. Fujimoto, and H.A. Haus. "Femtosecond Dynamics of the Nonlinear Index Near the Band Edge in AlGaAs Waveguides." *Appl. Phys. Lett.* 56(19):1834-1836 (1990).
- Ashar, P., S. Devadas, and A.R. Newton. "Optimum and Heuristic Algorithms for a Formulation of Finite State Machine Decomposition." *IEEE Trans. Comput.-Aided Des.* 10(3):296-310 (1991).
- Ashar, P., S. Devadas, and A.R. Newton. "Irredundant Interacting Sequential Machines Via Optimal Logic Synthesis." *IEEE Trans. Comput.-Aided Des.* 10(3):311-325 (1991).
- Azzam, W.J., and J.A. del Alamo. "An All-Electrical Floating-Gate Transmission Line Model Technique for Measuring Source Resistance in Heterostructure Field-Effect Transistors." *IEEE Trans. Electron Devices* 37(9):2105-2107 (1990).
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Prepayment is required. Please include a check  
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