

## PAPERS BY AT&T BELL LABORATORIES AUTHORS

### COMPUTING/MATHEMATICS

- Adleman L. M., Odlyzko A. M., **Irreducibility Testing and Factorization of Polynomials.** *Math Comput* 41(164):699-709, 1983.
- Allen R. B., Scerbo M. W., **Details of Command-Language Keystrokes.** *ACM T Office* 1(2):159-178, 1983.
- Barmish B. R., Petersen I. R., Feuer A., **Linear Ultimate Boundedness Control of Uncertain Dynamical Systems.** *Automatica* 19(5):523-532, 1983.
- Barron E. N., Jensen R., **A Nonlinear Evolution System With Two Subdifferentials and Monotone Differential Games.** *J Math Anal* 97(1):65-80, 1983.
- Bentley J., **Cracking the Oyster (Editorial).** *Comm ACM* 26(8):550-552, 1983.
- Borkovitz D., Hwang F. K., **Multiplicative Magic Squares.** *Discr Math* 47(1):1-11, 1983.
- Brown M. K., Ganapathy S., **Preprocessing Techniques for Cursive Script Word Recognition.** *Patt Recog* 16(5):447-458, 1983.
- Chung F. R. K., **Unavoidable Stars in Three Graphs.** *J Comb Th A* 35(3):252-262, 1983.
- Conway J. H., Sloane N. J. A., **A Fast Encoding Method for Lattice Codes and Quantizers.** *IEEE Info T* 29(6):820-824, 1983.
- Erdos P., Mullin R. C., Sos V. T., Stinson D. R., **Finite Linear Spaces and Projective Planes.** *Discr Math* 47(1):49-62, 1983.
- Fishburn P. C., **Interval Lengths for Interval Orders—A Minimization Problem.** *Discr Math* 47(1):63-82, 1983.
- Garey M. R., **Combinatorial Optimization—Algorithms and Complexity—Papadimitriou C. H., Steiglitz K. (Book Review).** *Am Scient* 71(6):658, 1983.
- Garey M. R., Johnson D. S., **Crossing Number is NP-Complete.** *Siam J Alg* 4(3):312-316, 1983.
- Gershenfeld N. A., Schadler E. H., Bilaniuk O. M., **APL and the Numerical Solution of High-Order Linear-Differential Equations.** *Am J Phys* 51(8):743-746, 1983.
- Johnson D. S., Klug A., **Optimizing Conjunctive Queries That Contain Untyped Variables.** *SIAM J Comp* 12(4):616-640, 1983.
- Larson R. G., **Elongational-Flow Predictions of the Leonov Constitutive Equation.** *Rheol Act* 22(5):435-448, 1983.
- Levy L. S., **A Walk Through AWK.** *Sigplan Not* 18(12):69-85, 1983.
- Lu P. M., Yau S. S., Hong W., **A Formal Methodology Using Attributed Grammars for Multiprocessing-System Software Development. 1. Design Representation.** *Inf Sci* 30(2):79-105, 1983.
- Lu P. M., Yau S. S., Hong W., **A Formal Methodology Using Attributed Grammars for Multiprocessing-System Software-Development. 2. Validation.** *Inf Sci* 30(2):107-123, 1983.
- Luss H., **An Extended Model for the Optimal Sizing of Records.** *J Oper Res* 34(11):1099-1105, 1983.
- Mitra D., Morrison J. A., **Asymptotic Expansions of Moments of the Waiting Time in a Shared-Processor of an Interactive System.** *Siam J Comp* 12(4):789-802, 1983.
- Petersen W. P., **Vector FORTRAN for Numerical Problems on CRAY 1.** *Comm ACM* 26(11):1008-1021, 1983.
- Vo K. P., Whitney R., **Tableaux and Matrix Correspondences.** *J Comb Th A* 35(3):328-359, 1983.

### ENGINEERING

- Agrawal G. P., Dutta N. K., **Effect of Auger Recombination on the Threshold Characteristics of Gain-Guided InGaAsP Lasers.** *Electr Lett* 19(23):974-976, 1983.

- Alferness R. C., Joyner C. H., Buhl L. L., Korotky S. K., **High-Speed Traveling-Wave Directional Coupler Switch Modulator for  $\lambda = 1.32 \mu\text{m}$** . IEEE J Q El 19(9):1339-1341, 1983.
- Bhatt R. N., Lee P. A., **Low-Temperature Conductivity of Doped Semiconductors—Mass Anisotropy and Intervalley Effects**. Sol St Comm 48(9):755-759, 1983.
- Chraplyvy A. R., Kaminow I. P., Dentai A. G., **Evaluation of InGaAsP Laser Material by Optical Pumping**. IEEE J Q El 19(9):1342-1344, 1983.
- Citrin P. H., Rowe J. E., **Local-Structure of Adsorbates on Semiconductor Surfaces Using SEXAFS—A Brief Summary**. Surf Sci 132(1-3):205-211, 1983.
- Dupuis R. D., Hartman R. L., Nash F. R., **Facet-Coated Graded-Index Separate-Confinement-Heterostructure Single-Quantum-Well Lasers Having Low Degradation Rates (1.1 Percent/kh) at 70 Degrees C**. IEEE Elec D 4(8):286-288, 1983.
- Engelmaier W., **Fatigue Life of Leadless Chip Carrier Solder Joints During Power Cycling**. IEEE Compon 6(3):232-237, 1983.
- Gans M. J., Amitay N., **Narrow Multibeam Satellite Ground Station Antenna Employing a Linear Array With a Geosynchronous Arc Coverage of 60 Degrees. 2. Antenna Design**. IEEE Antenn 31(6):966-972, 1983.
- Haskell B. G., **High Definition Television (HDTV)—Compatibility and Distribution (Letter)**. IEEE Commun 31(12):1308-1317, 1983.
- Heimann P. A., **An Operational Definition for Breakdown of Thin Thermal Oxides of Silicon**. IEEE Device 30(10):1366-1368, 1983.
- Henry C. H., **Theory of the Phase Noise and Power Spectrum of a Single-Mode Injection Laser**. IEEE J Q El 19(9):1391-1397, 1983.
- Hsu F. C., Muller R. S., Hu C. M., Ko P. K., **A Simple Punchthrough Model for Short-Channel MOSFETs**. IEEE Device 30(10):1354-1359, 1983.
- Johnson A. M., Simpson W. M., **Continuous-Wave Mode-Locked Nd:YAG-Pumped Subpicosecond Dye Lasers**. Optics Lett 8(11):554-556, 1983.
- Kaminow I. P., Ko J. S., Linke R. A., Stulz L. W., **High-Speed 1.55  $\mu\text{m}$  Single-Longitudinal-Mode Ridge Wave-Guide C<sup>3</sup> Laser**. Electr Lett 19(19):784-785, 1983.
- Kavehrad M., **Adaptive Decision Feedback Cancellation of Intersymbol Interference Over Multipath Fading Radio Channels**. ICC 2: C8.5.1-C8.5.3, 1983.
- Knausenberger W. H., Teneketges N. A., **High Pinout-IC Packaging and the Density Advantage of Surface Mounting**. IEEE Compon 6(3):298-304, 1983.
- Kuo W., Kuo Y., **Facing the Headaches of Early Failures—A State-of-the-Art Review of Burn-In Decisions (Review)**. P IEEE 71(11):1257-1266, 1983.
- Lamorte M. F., Abbott D. H., **Influence of Band-Gap Span on Cascade Solar-Cell Efficiency**. Solar Cells 10(1):33-48, 1983.
- Leheny R. F., Liao A., Tell B., Mayer L., **Integrated Photoreceivers for Long Wavelength Communications Systems—Is the Technology Ready?** P Soc Photo 408:115-120, 1983.
- Linke R. A., Kasper B. L., Ko J. S., Kaminow I. P., Vodhanel R. S., **1 Gbit/s Transmission Experiment Over 101 km of Single-Mode Fiber Using a 1.55  $\mu\text{m}$  Ridge Guide C<sup>3</sup> Laser**. Electr Lett 19:775-776, 1983.
- Liu P. L., Fencil L. E., Ko J. S., Kaminow I. P., Lee T. P., Burrus C. A., **Amplitude Fluctuations and Photon Statistics of InGaAsP Injection Lasers**. IEEE J Q El 19(9):1348-1351, 1983.
- Manheimer M. A., Bhagat S. M., Chen H. S., **Reentrant Magnetism—A Low Field Study**. J Magn Magn 38(2):147-158, 1983.
- Marcuse D., Lee T. P., **On Approximate Analytical Solutions of Rate-Equations for Studying Transient Spectra of Injection Lasers**. IEEE J Q El 19(9):1397-1406, 1983.
- Netravali A. N., Pirsch P., **Character Display on a CRT**. IEEE Broadc 29(3):106-110, 1983.
- Ross I. M., **Technology for Tomorrow (Editorial)**. IEEE Comm M 21(9):42-45, 1983.
- Schaper L. W., Amey D. I., **Improved Electrical Performance Required for Future MOS Packaging**. IEEE Compon 6(3):283-289, 1983.

- Schwab T. F., Yau S. S., **An Algebraic Model of Fault-Masking Logic Circuits.** *IEEE Comput* 32(9):809-825, 1983.
- Sproles E. S., Sharma S. P., **Effect of HCl and Cl<sub>2</sub> on Pd-Inlay Coupons and Pd-Connector Contacts.** *IEEE Compon* 6(3):343-348, 1983.
- Stolen R. H., **Applications of Nonlinear Phenomena in Optical Fibers.** *P Soc Photo* 408:156-162, 1983.
- Tsang W. T., Olsson N. A., Logan R. A., Ditzenberger J. A., Kaminow I. P., Ko J. S., **Single-Longitudinal Mode Performance—Characteristics of Cleaved-Coupled-Cavity Lasers.** *Appl Phys L* 43(11):1003-1005, 1983.
- Worlock J. M., **Wave Vector Dependent Magneto-Optical Interband Transitions in Semiconductors.** *Sol St Comm* 48(12):1067-1070, 1983.

## MANAGEMENT/ECONOMICS

- Fishburn P. C., **Transitive Measurable Utility.** *J Econ Theo* 31(2):293-317, 1983.
- Gilstein C. Z., Leamer E. E., **Robust Sets of Regression Estimates.** *Econometric* 51(2):321-333, 1983.
- Gordon R. H., **An Optimal Taxation Approach to Fiscal Federalism.** *Q J Econ* 98(4):567-586, 1983.
- Norman A. L., Lasdon L. S., Hsin J. K., **A Comparison of Methods for Solving and Optimizing a Large Nonlinear Econometric Model.** *J Econ Dyn* 6(1-2):3-24, 1983.
- Stiglitz J. E., Weiss A., **Incentive Effects of Terminations—Applications to the Credit and Labor Markets.** *Am Econ Rev* 73(5):912-927, 1983.

## PHYSICAL SCIENCES

- Abrahams S. C., Liminga R., Marsh P., Schrey F., Albertsson J., Svensson C., Kvik A., **Thermal Expansivity of  $\alpha$ -LiIO<sub>3</sub> Between 20 and 520K.** *J Appl Cryst* 16(OCT):453-457, 1983.
- Aeppli G. et al., **Spin Correlations and Reentrant Spin-Glass Behavior in Amorphous Fe-Mn Alloys—Statics.** *Phys Rev B* 28(9):5160-5172, 1983.
- Aharonshalom E., Heller A., **Injection Electro-Luminescence of N-InP in Dilute Nitric Acid.** *J Phys Chem* 87(24):4913-4918, 1983.
- Aspnes D. E., Heller A., **Photoelectrochemical Hydrogen Evolution and Water-Photolyzing Semiconductor Suspensions—Properties of Platinum Group Metal Catalyst Semiconductor Contacts in Air and in Hydrogen.** *J Phys Chem* 87(24):4919-4929, 1983.
- Bacon D. D., English A. T., Nakahara S., Peters F. G., Schreiber H., Sinclair W. R., Vandover R. B., **Properties of NbN Thin Films Deposited on Ambient-Temperature Substrates.** *J Appl Phys* 54(11):6509-6516, 1983.
- Bondybey V. E., English J. H., **Electronic Structure and Spectra of SnBi.** *J Chem Phys* 79(10):4746-4748, 1983.
- Bondybey V. E., English J. H., **Observation and Characterization of a New Electronic State of Cu-2 in Solid Neon.** *J Phys Chem* 87(23):4647-4650, 1983.
- Bowmer T. N., Vroom W. I., **Radiation Crosslinking of Poly(vinyl-Chloride) With Trimethylolpropanetrimethacrylate. 4. Effect of Diundecyl Phthalate—Dependence of Physical Properties on Composition.** *J Appl Poly* 28(11):3527-3548, 1983.
- Brasen D., Bonner W. A., **Effect of Temperature and Sulfur Doping on the Plastic Deformation of InP Single Crystals.** *Mater Sci E* 61(2):167-172, 1983.
- Braun C. L., Scott T. W., **Picosecond Measurements of Time-Resolved Geminate Charge Recombination (Letter).** *J Phys Chem* 87(24):4776-4778, 1983.
- Broughton J. Q., Gilmer G. H., **Molecular-Dynamics Investigation of the Crystal Fluid Interface. 1. Bulk Properties.** *J Chem Phys* 79(10):5095-5104, 1983.
- Broughton J. Q., Gilmer G. H., **Molecular-Dynamics Investigation of the Crystal Fluid Interface. 2. Structures of the FCC (111), (100), and (110) Crystal Vapor Systems.** *J Chem Phys* 79(10):5105-5118, 1983.

- Broughton J. Q., Gilmer G. H., **Molecular-Dynamics Investigation of the Crystal Fluid Interface. 3. Dynamical Properties of FCC Crystal Vapor Systems.** J Chem Phys 79(10):5119-5127, 1983.
- Brus L. E., **A Simple Model for the Ionization Potential, Electron Affinity, and Aqueous Redox Potentials of Small Semiconductor Crystallites.** J Chem Phys 79(11):5566-5571, 1983.
- Burton R. H., Hollien C. L., Marchut L., Abys S. M., Smolinsky G., Gottscho R. A., **Etching of Gallium-Arsenide and Indium-Phosphide in RF Discharges Through Mixtures of Trichlorofluoromethane and Oxygen.** J Appl Phys 54(11):6663-6671, 1983.
- Capasso F., Alavi K., Cho A. Y., Foy P. W., Bethea C. G., **New Long Wavelength  $\text{Al}_{0.48}\text{In}_{0.52}\text{As}/\text{Ga}_{0.47}\text{In}_{0.53}\text{As}$  Avalanche Photo-Diode Grown by Molecular-Beam Epitaxy.** Appl Phys L 43(11):1040-1042, 1983.
- Capasso F., Luryi S., Tsang W. T., Bethea C. G., Levine B. F., **New Transient Electrical-Polarization Phenomenon in Sawtooth Super Lattices.** Phys Rev L 51(25):2318-2321, 1983.
- Capasso F., Tsang W. T., Hutchinson A. L., Bethea C. G., Levine B. F., **Novel Graded Band-Gap Photodetectors With Ultrahigh Speed of Response ( $t_r = 20$  ps, FWHM = 40 ps) and Phototransistors with Graded Gap Base.** Inst Phys C1983(65):225-231, 1983.
- Cava R. J., Murphy D. W., Zahurak S. M., **Lithium Insertion in Wadsley-Roth Phases Based on Niobium Oxide.** J Elchem So 130(12):2345-2351, 1983.
- Cava R. J., Santoro A., Murphy D. W., Zahurak S. M., Roth R. S., **The Structures of the Lithium Inserted Metal-Oxides  $\text{Li}_{0.2}\text{ReO}_3$  and  $\text{Li}_{0.36}\text{WO}_3$ .** J Sol St Ch 50(1):121-128, 1983.
- Chance B., Kumar C., Powers L., Ching Y., **Peroxidatic Form of Cytochrome-Oxidase as Studied by X-Ray Absorption Spectroscopy.** Biophys J 44(3):353-363, 1983.
- Chen C. H., Fleming R. M., **Strandlike Microstructures in the Charge-Density Wave States of Orthorhombic  $\text{TaS}_3$ .** Sol St Comm 48(9):777-779, 1983.
- Chen H. S., Kurkjian C. R., **Sub-Sub- $T_g$  Enthalpy Relaxation in a  $\text{B}_2\text{O}_3$  Glass.** J Am Ceram 66(9):613-619, 1983.
- Chu S. N. G., Jodlauk C. M., Johnston W. D., **Morphological Study of Thermal Decomposition of InP Surfaces.** J Elchem So 130(12):2398-2405, 1983.
- Cohen R. L., West K. W., **Intrinsic Cycling Degradation in  $\text{LaNi}_5$  and Annealing Procedures for Reforming the Material.** J Lessc Met 95(1):17-23, 1983.
- Coppersmith S. N., **Scaling Behavior Near the Pinning Transition of the Discrete Frenkel-Kontorova Model.** J Physique 44(NC-3):1579-1582, 1983.
- Digiuseppe M. A., Temkin H., Peticolas L., Bonner W. A., **Quantum Well Structures of  $\text{In}_{0.53}\text{Ga}_{0.47}\text{As}/\text{InP}$  Grown by Hydride Vapor-Phase Epitaxy in a Multiple Chamber Reactor.** Appl Phys L 43(10):906-908, 1983.
- Duncan T. M., Winslow P., Bell A. T., **C-13 NMR Spectra of Carbonaceous Deposits on Silica-Supported Ruthenium Catalysts.** Chem P Lett 102(2-3):163-167, 1983.
- Fleming R. M., Chen C. H., Moncton D. E., **Electric-Field-Induced Structural Changes in  $\text{NbSe}_3$ .** J Physique 44(NC-3):1651-1658, 1983.
- Forrest S. R., Kim O. K., Smith R. G., **Analysis of the Dark Current and Photo-response of  $\text{In}_{0.53}\text{Ga}_{0.47}\text{As}/\text{InP}$  Avalanche Photodiodes.** Sol St Elec 26(10):951-968, 1983.
- Graedel T. E., Franey J. P., Kammlott G. W., **The Corrosion of Copper by Atmospheric Sulfurous Gases.** Corros Sci 23(11):1141+, 1983.
- Gross B., Von Seggern H., Berkley D. A., **Long-Term Behavior of Radiation-Induced Currents in Fluorinated Ethylene Propylene Co-Polymer.** Phys St S-A 79(2):607-615, 1983.
- Guntherodt G., Jayaraman A., Batlogg G., Croft M., Melczer E., **Raman Scattering From Coupled Phonon and Electronic Crystal-Field Excitations in  $\text{CeAl}_2$ .** Phys Rev L 51(25):2330-2332, 1983.
- Habbal F., Bevk J., **Interface Flux Pinning in Insitu Formed Superconducting Composites.** J Appl Phys 54(11):6543-6548, 1983.
- Hayes J. R., Capasso F., Malik R. J., Gossard A. C., Wiegmann W., **Optimum Emitter Grading for Heterojunction Bipolar Transistors.** Appl Phys L 43(10):949-951, 1983.

- Heiney P. A. et al., **X-Ray-Scattering Study of the Structure and Freezing Transition of Monolayer Xenon on Graphite.** *Phys Rev B* 28(11):6416-6434, 1983.
- Hemenway B. R., Bowers J. E., Miller B. I., **Anisotropic Undercutting in (100) Indium-Phosphide.** *Electr Lett* 19(24):1049-1051, 1983.
- Henein G. E., Wagner W. R., **Stresses Induced in GaAs by TiPt Ohmic Contacts.** *J Appl Phys* 54(11):6395-6400, 1983.
- Henkel C., Wilson T. L., Walmsley C. M., Pauls T., **Formaldehyde Towards Compact H-II Regions—Densities and Isotope Ratios.** *Astron Astr* 127(2):388-394, 1983.
- Hensel J. C., Halperin B. I., Dynes R. C., **Dynamical Model for the Absorption and Scattering of Ballistic Phonons by the Electron Inversion Layer in Silicon.** *Phys Rev L* 51(25):2302-2305, 1983.
- Hilinski E. F., Milton S. V., Rentzepis P. M., **Picosecond Spectroscopy and Applications to Chemical and Biological Systems (Review).** *ACS Symp S* 1983(236):201-220, 1983.
- Hou T. W., Mogab C. J., Wagner R. S., **Ion Milling Planarization for Magnetic-Bubble Devices.** *J Vac Sci A* 1(4):1801-1805, 1983.
- Inoue A., Masumoto T., Hagiwara M., Chen H. S., **The Structural Relaxation Behavior of Pd<sub>48</sub>Ni<sub>32</sub>P<sub>20</sub>, Fe<sub>75</sub>Si<sub>10</sub>B<sub>15</sub> and Co<sub>72.5</sub>Si<sub>12.5</sub>B<sub>15</sub> Amorphous Alloy Wire and Ribbon.** *Scrip Metal* 17(10):1205-1208, 1983.
- Jindal R. P., **A Normalized Analytical Solution for the Capacitance Associated With Uniformly Doped Semiconductors at Equilibrium.** *Sol St Elec* 26(10):1005-1008, 1983.
- Johnson D. W., Rabinovich E. M., Macchesney J. B., Vogel E. M., **Preparation of High-Silica Glasses from Colloidal Gels. 2. Sintering.** *J Am Ceram* 66(10):688-693, 1983.
- Kastalsky A., Dingle R., Cheng K. Y., Cho A. Y., **Two-Dimensional Electron-Gas at an MBE-Grown, Selectively-Doped, In<sub>0.53</sub>Ga<sub>0.47</sub>As/In<sub>0.52</sub>Al<sub>0.48</sub>As Interface.** *Inst Phys C* 1983(65):181-185, 1983.
- Kevan S. D., **Design of a High-Resolution Angle-Resolving Electron-Energy Analyzer.** *Rev Sci Ins* 54(11):1441-1445, 1983.
- Kohl P. A., Wolowodiuk C., Ostermayer F. W., **The Photoelectrochemical Oxidation of (100), (111), and (111) N-InP and N-GaAs.** *J Elchem So* 130(11):2288-2293, 1983.
- Lester M. I., Zegarski B. R., Miller T. A., **Laser-Induced Fluorescence Studies of Large and Small Molecular Cations Produced by Using Electron Bombardment in a Free Jet Expansion.** *J Phys Chem* 87(25):5228-5233, 1983.
- Levinson M., Stavola M., Benton J. L., Kimerling L. C., **Metastable M-Center in InP—Defect-Charge-State Controlled Structural Relaxation.** *Phys Rev B* 28(10):5848-5855, 1983.
- Lifshitz N., **Solubility of Implanted Dopants in Polysilicon—Phosphorus and Arsenic.** *J Elchem So* 130(12):2464-2467, 1983.
- Meiboom S., Sammon M., Berreman D. W., **Lattice Symmetry of the Cholesteric Blue Phases.** *Phys Rev A* 28(6):3553-3560, 1983.
- Miller R. C., Gossard A. C., **Some Effects of a Longitudinal Electric Field on the Photoluminescence of Paradoxical GaAs-Al<sub>x</sub>Ga<sub>1-x</sub>As Quantum Well Heterostructures.** *Appl Phys L* 43(10):954-956, 1983.
- Mitchell J. W. et al., **Microscale Homogeneity and Compositional Profiling of Borosilicate Glass Materials.** *Mikroch Act* 3(3-4):253-261, 1983.
- Murphy D. W., Dye J. L., Zahurak S. M., **Alkali-Metal Insertion in the Pyrochlore Structure (Letter).** *Inorg Chem* 22(25):3679-3681, 1983.
- Nakahara S., Abys J. A., Abys S. M., **Room-Temperature Diffusion-Induced Grain-Boundary Migration in the Fine-Grained Pd Side of Cu-Pd Diffusion Couples.** *Mater Lett* 2(2):155-159, 1983.
- Paalanen M. A., Tsui D. C., Hwang J. C. M., **Parabolic Magnetoresistance From the Interaction Effect in a Two-Dimensional Electron Gas.** *Phys Rev L* 51(24):2226-2229, 1983.
- Pearson D. S. et al., **Comparison of the Rheological Properties of Linear and Star-Branched Polyisoprenes in Shear and Elongational Flows.** *J Pol Sc PP* 21(11):2287-2298, 1983.
- Pfeiffer L., Celler G. K., Kovacs T., Robinson M., **Suppression of Low-Angle Grain-**

- Boundaries in Seeded Thick Si Films Recrystallized Between SiO<sub>2</sub> Layers.** *Appl Phys L* 43(11):1048-1050, 1983.
- Phillips J. M., Feldman L. C., Gibson J. M., McDonald M. L., Epitaxial Growth of Alkaline-Earth Fluorides on Semiconductors.** *Thin Sol Fi* 107(3):217-226, 1983.
- Pini R., Salimbeni R., Matera M., Lin C. L., Wideband Frequency Conversion in the UV by Nine Orders of Stimulated Raman Scattering in a XeCl Laser Pumped Multimode Silica Fiber.** *Appl Phys L* 43(6):517-518, 1983.
- Rabinovich E. M., Johnson D. W., Macchesney J. B., Vogel E. M., Preparation of High-Silica Glasses from Colloidal Gels. 1. Preparation for Sintering and Properties of Sintered Glasses.** *J Am Ceram* 66(10):683-688, 1983.
- Roth H. D., Schilling M. L., Radical Cations of Tetraalkylcyclopropanes—The Cyclopropane Moiety as an Electron Donor.** *J Am Chem S* 105(23):6805-6808, 1983.
- Schleyer P. V. et al., The 1,2-Hydride Shift Barrier in the Phenyl Cation—An Abinitio Study.** *J Chem S CH1983(22):1296-1298, 1983.*
- Seidel T. E., Rapid Thermal Annealing of BF<sub>3</sub><sup>+</sup> Implanted, Preamorphized Silicon (Letter).** *IEEE Elec D.* 4(10):353-355, 1983.
- Smith C. G., Okinaka Y., High-Speed Gold Plating—Anodic Bath Degradation and Search for Stable Low Polarization Anodes.** *J Elchem So* 130(11):2149-2157, 1983.
- Smith N. V., Inverse Photoemission and Related Techniques.** *Vacuum* 33(10-1): 803-811, 1983.
- Swaminathan V., Wagner W. R., Anthony P. J., Effect of N-Type and P-Type Doping on the Microhardness of GaAs, (Al,Ga)As and Ga(As,Sb) Active Layers in 0.82 and 0.87 μm Injection Lasers.** *J Elchem So* 130(12):2468-2472, 1983.
- Tarcha P. J., Fitch R. M., Dumais J. J., Jelinski L. W., Particle Morphology of Self-Hydrolyzed Acrylate Polymer Colloids—A C-13 NMR and DSC Study.** *J Pol Sc PP* 21(11):2389-2402, 1983.
- Teo B. K., A Simple Electron Counting Rule for Close-Packed High Nuclearity Metal Clusters.** *J Chem S CH1983(22):1362-1364, 1983.*
- Tonelli A. E., Belfiore L. A., Solution Dipole Moments of Atactic Poly(Para-Chlorostyrene) and Poly(Para-Bromostyrene) and Their Dependence on Temperature and Solvent.** *Macromolec* 16(11):1740-1743, 1983.
- Trimble L. E., Celler G. K., Novel Laser Scanning Techniques for Si-on-Insulator Devices.** *P Soc Photo* 385:8-15, 1983.
- Tu C. W., Forrest S. R., Johnston W. D., Epitaxial InP/Fluoride/InP(001) Double Heterostructures Grown by Molecular Beam Epitaxy.** *Appl Phys L* 43(6):569-571, 1983.
- Vasile M. J., The Reaction Probability of XeF<sub>2</sub> With Silicon.** *J Appl Phys* 54(11):6697-6704, 1983.
- Venkatesan T., Wolf T., Allara D., Wilkens B. J., Taylor G. N., Synthesis of Novel Inorganic Films by Ion-Beam Irradiation of Polymer Films.** *Appl Phys L* 43(10):934-936, 1983.
- Werner A., Hochheimer H. D., Strössner K., Jayaraman A., High-Pressure X-Ray Diffraction Studies on H<sub>2</sub>T<sub>e</sub> and H<sub>2</sub>S to 20 GPa.** *Phys Rev B* 28(6):3330-3334, 1983.
- Wernick J. H., Hull G. W., Geballe T. H., Bernardini J. E., Waszczak J. V., Superconductivity in Ternary Heusler Intermetallic Compounds.** *Mater Lett* 2(2):90-92, 1983.
- Wertheim G. K. et al., Unit Charge on Supported Gold Clusters in Photoemission Final State.** *Phys Rev L* 51(25):2310-2313, 1983.
- Wilson B. A., Hu P., Jedju T. M., Harbison J. P., Subnanosecond Radiative and Nonradiative Processes in Alpha-Si-H.** *Phys Rev B* 28(10):5901-5907, 1983.
- Wilson R. J., Petroff P. M., Cryopump and Sample Holder for Clean Reconstructed Surface Observations in a Transmission Electron Microscope.** *Rev Sci Ins* 54(11):1534-1537, 1983.
- Wood D. L., Rabinovich E. M., Johnson D. W., Macchesney J. B., Vogel E. M., Preparation of High-Silica Glasses from Colloidal Gels. 3. Infrared Spectrophotometric Studies.** *J Am Ceram* 66(10):693-699, 1983.
- Yachandra V., Powers L., Spiro T. G., X-Ray Absorption Spectra and the Coordi-**

**nation Number of Zn and Co Carbonic Anhydrase as a Function of pH and Inhibitor Binding.** J Am Chem S 105(22):6596-6604, 1983.

**Yafet Y., Conduction Electron-Spin Relaxation in the Superconducting State.** Phys Lett A 98(5-6):287-290, 1983.

## **SOCIAL AND LIFE SCIENCES**

**Scott T. W. et al., Subunit Heterogeneity in the Structure and Dynamics of Hemoglobin—A Transient Raman Study.** FEBS Letter 158(1):68-72, 1983.

**Wieland S. J., Gelperin A., Dopamine Elicits Feeding Motor Program in *Limax maximus*.** J Neurosc 3(9):1735-1745, 1983.

## **SPEECH/ACOUSTICS**

**Duttweiler D. L., Subsampling to Estimate Delay with Application to Echo Canceling.** IEEE Acoust 31(5):1090-1099, 1983.