

## PAPERS BY BELL LABORATORIES AUTHORS

### PHYSICAL SCIENCES

- Absolute Sense and Model for the Piezoelectric and Pyroelectric Coefficients in Ba(NO<sub>3</sub>)<sub>2</sub>·H<sub>2</sub>O and Cs<sub>2</sub>S<sub>2</sub>O<sub>6</sub>.** R. Liminga, S. C. Abrahams, and J. L. Bernstein, *J Appl Crystallogr*, 13, No. 6 (December 1980), pp 516-26.
- On the Anomalies in Density, Young's Modulus, and Class Temperature of Pd-Si Glasses.** H. S. Chen, J. T. Krause, K. Shirakawa, and T. Masumoto, *J Noncrystal Sol*, 41 (1980), pp 79-88.
- Conductivity Profiling of GaAs/(AlGa)As Multilayer Structures.** J. L. Zilkoski and P. J. Anthony, *J Electrochem Soc*, 128, No. 4 (April 1981), pp 871-4.
- Directional Memory Effects in Inelastic Photoelectron Scattering.** D. P. Woodruff et al., *Surf Sci*, 95 (1980), pp 403-10.
- The Disappearance of High Temperature Superconductivity in Ba Pb<sub>1-x</sub>Bi<sub>x</sub>O<sub>3</sub> Perovskite.** C. E. Methfessel, G. R. Stewart, and B. T. Matthias, *Proc Natl Acad Sci*, 77, No. 11 (1980), pp 6307-8.
- Effect of Metalloid Elements on Strength and Thermal Stability of Iron Based Glasses.** M. Naka, T. Masumoto, and H. S. Chen, *J Phys (Paris)*, C8, No. 41 (1980), pp 839-42.
- Efficient Transverse Deflection of Neutral Atomic Beams Using Spontaneous Resonance—Radiation Pressure.** J. E. Bjorkholm, R. R. Freeman, and D. B. Pearson, *Phys Rev A*, 23 (February 1981), pp 491-7.
- Electric Field Depinning of Charge-Density Waves in NbSe<sub>3</sub>.** R. M. Fleming, *Phys Rev B*, 22, No. 12 (December 15, 1980), pp 5606-12.
- EXAFS Studies of Glassy Metallic Alloys.** H. S. Chen, B. K. Teo, and R. Wang, *J Phys (Paris)*, C8, No. 41 (1980), pp 254-62.
- Neutron Activation Study of a Gettering Treatment for Czochralski Silicon Substrates.** L. E. Katz, P. F. Schmidt, and C. W. Pearce, *J Electrochem Soc*, 128, No. 3 (March 1981), pp 620-4.
- Neutron Activation Analysis Study of the Sources of Transition Group Metal Contamination in the Silicon Device Manufacturing Process.** P. F. Schmidt and C. W. Pearce, *J Electrochem Soc*, 128, No. 3 (March 1981), pp 630-7.
- Opto-Acoustic Study of Weak Optical Absorption of Liquid Methane.** C. K. N. Patel, E. T. Nelson, and R. J. Kerl, *Nature*, 286 (July 1980), pp 368-70.
- Order-Disorder Phase Transitions in 9-Hydroxyphenalenone.** S. C. Abrahams et al., *J. Chem Phys*, 74, No. 1 (January 1, 1981), pp 644-6.
- Picosecond Photoconductivity in Radiation Damaged Silicon-on-Sapphire Films.** P. R. Smith et al., *Appl Phys Lett*, 38, No. 1 (January 1, 1981), pp 47-50.
- Pressure Induced Structural Transitions in Partially Ionic Semiconductors: A Self-Consistent Pseudopotential Approach to ZnSe.** W. Andreoni and K. Maschke, *Phys Rev B*, 22 (November 15, 1980), pp 4816-24.
- Reactive Ion Etching of GaAs and InP Using CCl<sub>2</sub>F<sub>2</sub>/Ar/O<sub>2</sub>.** E. L. Hu and R. E. Howard, *Appl Phys Lett*, 37 (December 1, 1980), pp 1022-4.
- Relativistic Tight-Binding Calculation of Core-Valence Transitions in Pt and Au.** L. F. Mattheiss and R. E. Dietz, *Phys Rev B*, 22 (August 15, 1980), pp 1663-76.
- Relaxation of Optically Pumped Electron Spins Through a Virtual Photon: Experimental Evidence in Heavily Zn-Doped GaAs.** D. A. Kleinman and R. C. Miller, *Phys Rev Lett*, 46, No. 1 (January 1981), pp 68-71.
- Silver-Molecule Separation Dependence of Surface Enhanced Raman Scattering.** C. A. Murray, D. L. Allara, and M. Rhinewine, *Phys Rev Lett*, 46, No. 1 (January 1981), pp 57-61.
- Spin-Glass-Paramagnetic Phase Boundary in Amorphous Magnetic Alloys.** K. Moorjani et al., *J Phys (Paris)*, C8, No. 41 (1980), pp 718-22.
- Strain-Induced Softening of Certain Eutectics.** H. Suhl, B. T. Matthias, and S. Hecker, *Phys Rev Lett*, 45 (1980), pp 1707-8.
- Structural Phase Transitions: Defects and Dynamics.** P. A. Fleury, *J Phys (Paris)*, C6, No. 7 (July 1980), pp C6-419-C6-24.

**Superconductivity and Magnetic Ordering in the Pseudoternary HO(Ir<sub>x</sub>Rh<sub>1-x</sub>)<sub>4</sub>B<sub>4</sub>.** B. T. Matthias, H. C. Ku, and F. Acker, Phys Lett, 76A (1980), pp 399-402.

## MATHEMATICS

**Continuity of Generalized Semi-Markov Processes.** W. Whitt, Math Op Res, 5 (November 1980), pp 494-501.

**The Effect of Variability in the GI/G/s Queue.** W. Whitt, J Appl Probab, 17 (December 1980), pp 1062-71.

**Error-Correcting Codes and Cryptography.** N. J. A. Sloane, in *The Mathematical Gardner*, edited by D. A. Klarner, Boston: Prindle, Weber, and Schmidt, 1981, pp 346-82.

**Imbedding Smooth Involutions In Trivial Bundles.** K. J. Prevot, Pacific J. Math, 89, No. 1 (July 1980), pp 163-8.

**The Infinitesimal Group of the Navier-Stokes Equations.** S. P. Lloyd, Acta Mechanica, 38, Nos. 1, 2 (1981), pp 85-98.

**Statistical Computing: History and Trends.** J. M. Chambers, Am Statist, 34 (November 1980), pp 238-43.

## COMPUTING

**Application of Computers to Maintenance of Telecommunication Networks.** F. B. Six, *Seminar on Maintenance of Telecommunication Networks, October 6-15, 1980*, Geneva, Switzerland, Union Int. Telecommunications, 1981, pp 285-320.

**Consistency of Redundant Data Bases in a Weakly Coupled Distributed Computer Conferencing System.** B. I. Strom, Proc Fifth Berkeley Workshop on Distributed Data Management and Computer Networks, February 3, 1981, pp 143-53.

**Constructing Call-by-Value Continuation Semantics.** R. Sethi and A. Tang, J ACM, 27, No. 3 (July 1980), pp 580-97.

**The Control of Store and Forward Congestion in Packet Switched Networks.** E. F. Wunderlich, L. Kaufman, and B. Gopinath, *Proceedings of the Fifth International Conference on Computer Simulation*, Amsterdam: North-Holland, 1980, pp 851-6.

**The Edge-Flag Algorithm—A Fill Method for Raster Scan Displays.** B. D. Ackland and N. Weste, IEEE Trans Comput, C-30, No. 1 (January 1981), pp 41-7.

**Efficient Computation of Expressions With Common Subexpression.** B. Prabhala and R. Sethi, J ACM, 27, No. 1 (January 1980), pp 146-63.

**Variations on the Common Subexpression Problem.** P. J. Downey, R. Sethi, and R. E. Tarjan, J ACM, 27, No. 4 (October 1980), pp 758-71.

## ENGINEERING

**Bell's Echo-Killer Chip.** D. L. Duttweiler, IEEE Spectrum, 17 (October 1980), pp 34-7.

**Coupling Efficiency of Optics in Single-Mode Fiber Devices.** R. E. Wagner and W. J. Tomlinson, J Opt Soc Am, 70 (December 1980), p 1596.

**The Determination of Ruthenium in Plating Solutions and Electroplated Deposits.** T. Y. Kometani and L. D. Blitzer, Plat Surf Finish (October 1980), pp 57-60.

**Development of a Flame Resistant Noncontaminating PVC Jacket for Coaxial Cable.** J. T. Loadholt and S. Kaufman, 29th Intl Wire and Cable Symp Proc 1980, Cherry Hill, New Jersey, November 18-20, 1980, pp 245-52.

**The Effect of Frictional Polymer on the Performance of Palladium Connector Contacts.** E. S. Sproles, Jr., Proc IEEE Electron Compon Conf, 1980, pp 317-23.

**Effects of the Lower Atmosphere on Radio Prolongation at Frequencies Above 1 GHz.** T. S. Chu, URSI Symp Proc, Lennoville, Canada, May 26-30, 1980, pp 6.8.1-6.8.7.

**The Effects of Multipath Fading on 16 QAM Digital Radio.** W. W. Toy, ICC Conf Rec, 3 (June 1980), pp 52.1.1-52.1.5.

- Experimental and Theoretical Classification of Submicron MOSFETs.** W. Fichtner et al., IEDM Tech Dig, 1 (1980), pp 24-7.
- Generalized Box Medal for Electron Irradiated Teflon Foils.** B. Gruss et al., 1980 Ann Rep Conf Electrical Insulation and Dielectric Phenomena, Boston, Mass., October 1980, pp 313-20.
- High Resistivity Interfacial Layers Due to Compensation by Sulfur in (Al, Ga)As Devices.** P. J. Anthony, N. E. Schumaker, and J. L. Zilko, IEEE Electron Device Lett, EDL-2, No. 2 (February 1981), pp 46-9.
- Joint Carrier Phase and Symbol Timing Recovery for PAM Systems.** M. H. Meyers and L. E. Franks, IEEE Trans Commun, COM-28, No. 8 (August 1980), pp 1121-9.
- Lightwave Communications.** J. Simpson, Proc Intl Laser/Electro-Optics Training Conf, Wausau, Wisconsin, June 4-5, 1980, pp 105-23.
- Magnetic and Transport Properties of Transition-Metal Based Glassy Ribbons.** K. V. Roa et al., IEEE Trans Magn, MAG-16 (1980), pp 896-901.
- Magnetic Phase Diagram of Amorphous  $(Fe_xNi_{1-x})_{15}P_{16}B_6Al_3$  Alloys.** S. M. Bhagat, J. A. Geohagen, and H. S. Chen, Solid State Commun, 36 (1980), pp 1-5.
- A New Multifunctional Mass Termination Connector.** A. W. Carlisle and D. R. Frey, IEEE Trans Components, Hybrids Manuf Technol, CHMT-3, No. 4 (December 1980), pp 610-6.
- New Routing Capability—Direct Signaling.** M. A. McGrew and R. F. Frerking, Proc Natl Electron Conf, Chicago, Illinois, October 27-29, 1980, pp 159-63.
- Optical Modulators.** I. P. Kaminow, in *Encyclopedia of Science and Technology*, New York: McGraw-Hill, 1981, 5th ed.
- Overview of Telecommunications via Optical Fibers.** S. E. Miller, Proc IEEE, special issue on optical fibers, 68 (October 1980), pp 1173-4.
- Preliminary Study of a Two Wire Split Beam Connection.** E. Guancial and S. Das Gupta, IEEE Trans Compon, Hybrids Manuf Technol, 3 (December 1980), pp 654-8.
- Preparation of Glassy Metals.** H. S. Chen, H. J. Leamy, and C. E. Miller, Annu Rev Mater Sci, 10 (1980), pp 363-91.
- Quality Audit Using Adaptive Kalman Filtering.** M. S. Phadke, Intl Conf Am Soc Quality Control, San Francisco, California, May 27-29, 1981.
- Reliability of  $0.87 \mu m$  (Al,Ga)As Double Heterostructure Lasers with Ga(As,Sb) Active Layers.** P. J. Anthony et al., IEEE Electron Device Lett, EDL-2, No. 2 (February 1981), pp 50-2.
- Scanning the Issue.** S. E. Miller, Proc IEEE, special issue on optical communications, 68 (October 1980), p 1172.
- Switching Performance of a 12-GHz Pin Phase Shifter/Driver Module for Satellite Communication Phased Array.** N. Amitay and B. Glance, IEEE Trans Commun, COM-29, No. 1 (January 1981), pp 46-50.
- Thin Film Photoconductor Mounting Schemes for Picosecond Optical Detectors,** P. R. Smith, D. H. Auston, and A. M. Johnson, Rev Sci Instrum, 52, No. 1 (January 1981), pp 138-40.
- Threshold-Voltage Instability in MOSFETs Due to Channel Hot-Hole Emission,** R. B. Fan and R. C. Sun, IEEE Trans Electron Devices, ED-28 (January 1981), pp 83-94.
- Visibility of Borders: Separate and Combined Effects of Color Differences, Luminance Contrast, and Luminance Level.** F. S. Frome, S. L. Buck, and R. M. Boynton, J Opt Soc Am, 71, No. 2 (February 1981), pp 145-50.

## SOCIAL AND LIFE SCIENCES

- On the Depth of the Cyclopean Retina.** C. W. Tyler and B. Julesz, Exp Brain Res, 40 (1980), pp 196-202.
- Task-Oriented Approaches to Automatic Speech Recognition.** A. E. Rosenberg et al., Proc 1980 SAE Congress (February 1980), pp 1-9.
- Telecommunications in Earthquakes.** J. W. Foss and J. D. Scobee, Soc Econ Impact Earthquake Util Lifeline Conf, San Francisco, California, May 20, 1980. New York: Am. Soc. Civil Engineers, 1981, pp 134-59.

## MANAGEMENT AND LIFE SCIENCES

**Approximating the Admissible Set in Stochastic Dominance.** D. Goroff and W. Whitt, *J Econ Theor*, 23 (October 1980), pp 218-35.

**A Control Theory Approach for Modeling and Analysis of Economical Systems.** F. Aminzadeh, *Proc IEEE Control System Soc, NJ Section, Murray Hill, New Jersey.*

## Errata

I. W. Sandberg, "On Newton-Direction Algorithms and Diffeomorphisms," *B.S.T.J.*, 60, No. 3 (March 1981), pp. 339-346.

On page 345, replace the first sentence of Theorem 3 with: Let  $B = R^n$ , and let  $f$  be a continuously differentiable map of  $R^n$  into  $R^n$  such that  $f'$  is Lipschitz on bounded subsets of  $R^n$ .

K. Nassau, "The Material Dispersion Zero in Infrared Optical Waveguide Materials," *B.S.T.J.*, 60, No. 3 (March 1981), pp. 327-337.

In eq. 2 (page 328), for  $d^2$  read  $d^3$ .