

# Papers by Bell Laboratories Authors

## BIOLOGY

**A Quantitative Model of Actin-Myosin Interaction in Skeletal Muscle.** A. Gersho, M. Orentlicher, *Biophys. J.*, *18* (May 1977), pp. 141-159.

**The Binding of CO to Mutant Alpha Chains of Hemoglobin M. Iwate Evidence for Distal Imidazole Ligation.** J. Peisach, K. Gersonde, *Biochemistry*, *16* (1977), pp. 2539-2545.

**An Experimental Test of the Vibronically Coupled Tunneling Description of Biological Electron Transfer.** J. J. Hopfield, M. J. Potasek, *Proc. Nat. Acad. Sci.*, *74* (January 1977), p. 229-233.

**<sup>31</sup>P Nuclear Magnetic Resonance Studies o-Ehrlich Ascites Tumor Cells.** G. Navon, S. Ogawa, R. G. Shulman, T. Yamane, *Proc. Nat. Acad. Sci.*, *74* (January 1977), pp. 87-91.

## CHEMISTRY

**Classical Trajectory Study of the Dissociation of Hydrogen on Copper Single Crystals II. Cu(100) and Cu(110).** A. Gelb, M. J. Cardillo, *Surface Sci.*, *64* (April 1977), pp. 197-208.

**Photochemistry of the Sunday Effect.** T. E. Graedel, L. A. Farrow, T. A. Weber, *Environ. Sci. Technol.*, *11* (1977), pp. 690-694.

**Oxidation of Ni<sub>3</sub>Sn<sub>4</sub>, Metastable SnNi, Ni<sub>3</sub>Sn<sub>2</sub> and Ni<sub>3</sub>Sn.** H. G. Tompkins, J. E. Bennett, *J. Electrochem. Soc.*, *124*, No. 4 (April 1977), pp. 621-623.

**Picosecond Dynamics of Azulene.** E. P. Ippen, C. V. Shank, R. L. Woerner, *Chem. Phys. Lett.*, *46*, No. 1 (February 1977), pp. 20-23.

## COMPUTING

**LTX—A Minicomputer-Based System for Automated LSI Layout.** G. Persky, D. N. Deutsch, D. G. Schweikert, *Journal of Design Automation and Fault-Tolerant Computing*, *1*, No. 3 (May 1977), pp. 217-255.

**Unconventional Uses of On-Line Information Retrieval Systems: On-Line Bibliometric Studies.** D. T. Hawkins, *J. Amer. Soc. Inform. Sci.*, *28*, No. 1 (1977) pp. 13-18.

## ECONOMICS

**Portfolio Choice and Equilibrium in Capital Market with Safety-First Investors.** E. R. Arzac, V. S. Bawa, *Journal of Financial Economics*, *4* (May 1977), pp. 277-288.

## ELECTRICAL AND ELECTRONIC ENGINEERING

**IMPATT Diode Circuit Design for Parametric Stability.** J. Gonda, W. E. Schroeder, III, *Trans. Microw. Theory Tech.*, *MTT 25* (May 1977), pp. 343-352.

**Interpolative Picture Coding Using a Subjective Criterion.** A. N. Netravali, *IEEE Trans. Comm.*, *COM-25*, (May 1977), pp. 503-508.

**Adaptive Quantization of Picture Signals Using Spatial Masking.** A. N. Netravali, B. Prasada, *Proc. IEEE*, *65*, No. 4 (April 1977), pp. 536-548.

**Simultaneous Phase Tracking and Detection in Data Transmission Over Noisy Dispersive Channels.** F. R. Magee, Jr., *IEEE Trans. Comm.*, *COM-25* (July 1977), pp. 712-715.

**Rank Reduction of Ill-Conditioned Matrices in Waveguide Junction Problems.** D. N. Zuckerman, P. Diament, *IEEE Trans. Microw. Theory Tech.*, *MTT-25* (July 1977), pp. 613-619.

**Some Observations of Anomalous Depolarization on 19 and 12 GHz Earth-Space Propagation Paths.** D. C. Cox, H. W. Arnold, A. J. Rustako, Jr., *Radio Sci.*, *12* (May-June 1977), pp. 435-440.

**On Low-Sensitivity Realizations of Band-Elimination Active Filters.** R. N. Gadenz, *IEEE Trans. on Circuits and Systems*, *CAS-24*, No. 4 (April 1977), 175-183.

**Rain-Scatter Interference on an Earth-Space Path.** T. S. Chu, *IEEE Trans. Ant. Propag.*, *AP-25* (March 1977), pp. 287-288.

## GENERAL MATHEMATICS AND STATISTICS

**Applications of Group Actions on Finite Complexes to Hilbert Cube Manifolds.** L. S. Newman, Jr., *Proc. Amer. Math. Soc.*, *62*, No. 1 (January 1977), pp. 183-187.

**Charge Singularity at the Vertex of a Slender Cone of General Cross Section.** J. A. Morrison, *Siam J. Appl. Math.*, *33* (July 1977), pp. 127-132.

## MATERIALS SCIENCE

**Beryllium Doping and Diffusion in Molecular Beam Epitaxy of GaAs and Al<sub>x</sub>Ga<sub>1-x</sub>As.** M. Ilegems, *J. Appl. Phys.*, *48* (March 1977), pp. 1278-1287.

**Composition and Stress State of Thin Films Deposited by Ion Beam Sputtering.** R. N. Castellano, M. R. Notis, G. W. Simmons, *Vacuum*, *27*, No. 3 (June 1977), pp. 109-117.

**Computer Model of Metallic Spin Glasses.** L. R. Walker, R. E. Walstedt, *Phys. Rev. Lett.*, *38*, No. 9 (February 28, 1977), pp. 514-518.

**Concerning the Semimetallic Characters of TiS<sub>2</sub> and TiSe<sub>2</sub>.** J. A. Wilson, *Solid State Commun.*, *22* (1977), pp. 551-553.

**The Copolymerization of Styrene with Sulfur Dioxide. Determination of the Monomer Sequence Distribution by Carbon-13 NMR.** R. E. Cais, H. J. O'Donnell, F. A. Bovey, *Macromolecules*, *10*, No. 2 (March-April 1977), pp. 254-260.

**Electronic Structure of Tetragonal Tungsten Bronzes and Electrochromic Oxides.** G. K. Wertheim, M. Campagna, J. N. Chazalviel, D. N. E. Buchanan, H. R. Shanks, *Appl. Phys.*, *13* (1977), pp. 225-230.

**Glass Transition Temperatures of Regularly Alternating Acrylonitrile-Vinyl Acetate Copolymers.** A. E. Tonelli, *Macromolecules*, *10* (1977), pp. 716-717.

**Impurity Effects in the Nucleation of Alpha(bcc)-Tantalum or Beta-Tantalum Films.** N. Schwartz, E. D. Feit, *J. Electrochem. Soc.*, *124* (January 1977), pp. 123-131.

**Intramolecular Interactions as the Source of Sequence Distribution-Glass Transition Effects and Dilute Solution Properties of Styrene-Methyl Methacrylate Copolymers.** A. E. Tonelli, *Macromolecules*, *10* (1977), pp. 633-635.

**Large Elastic Softening in the One-Dimensional Magnetic Material CsNiF<sub>3</sub>.** M. Barmatz, L. R. Testardi, M. Eibschutz, H. J. Guggenheim, *Phys. Rev. B*, *15*, No. 9 (May 1, 1977), pp. 4370-4375.

**Localized Gap States in Amorphous Semiconducting Compounds.** J. J. Hauser, F. J. DiSalvo, R. S. Hutton, *Phil. Mag.*, *35* (June 1977), pp. 1557-1575.

**Many-Body Effects in X-ray Photoemission from the Noble Metals.** Y. Yafet, G. K. Wertheim, *J. Phys. F Metal Phys.*, *7* (1977), pp. 357-365.

**Phonons in a Cold Glass.** B. Golding, J. E. Braebner, *Bull. Amer. Phys. Soc.*, *22* (March 1977), p. 310.

**Phonon Self-Induced Transparency in Silica Glass.** B. Golding, J. E. Graebner, Bull. Amer. Phys. Soc., 22 (March 1977), p. 310.

**Raman Spectrum of Vitreous BeF<sub>2</sub>.** G. E. Walrafen, R. H. Stolen, Solid State Commun., 21 (1977), pp. 417-419.

**Relative Rates of Nickel Diffusion and Copper Diffusion Through Gold.** H. G. Tompkins, M. R. Pinnel, J. Appl. Phys., 48 (July 1977), pp. 3144-3146.

**Spectroscopic Study of RF Oxygen Plasma Stripping of Negative Photoresists. II. Visible Spectrum.** J. E. Griffiths, E. O. Degenkolb, Appl. Spectrosc., 31 (March 1977), pp. 134-137.

**Temperature Dependence of Positron Lifetimes in Linear Polyethylene.** S. Y. Chuang, S. J. Tao, T. T. Wang, Macromolecules, 10 (May-June 1977), pp. 713-715.

## PHYSICS

**Excited State Spectroscopy of Molecules Using Opto-Acoustic Detection.** C. K. N. Patel, R. J. Kerl, E. G. Burkhardt, Phys. Rev. Lett., 38 (May 23, 1977), pp. 1204-1207.

**AC Stark Splitting of Two-Photon Spectra.** J. E. Bjorkholm, P. F. Liao, Opt. Commun., 21 (April 1977), pp. 132-136.

**The Anomalous Behavior of TiSe<sub>2</sub> and the Excitonic Insulator Mechanism.** J. A. Wilson, S. Mahajan, Commun. Phys., 2 (1977), pp. 23-29.

**Avalanche Punch-Through Erase (APTE) Mode in Dual-Dielectric Charge-Storage (DDC) Cells.** D. Kahng, J. R. Brews, W. J. Sundburg, IEEE Trans. Electron Dev., ED-24 (May 1977), pp. 531-535.

**A Bistable Fabry-Perot Resonator.** P. W. Smith, E. H. Turner, Appl. Phys. Lett., 30, No. 6 (March 15, 1977), pp. 280-281.

**Charge Density Waves in the 2H-TaSe<sub>2</sub> Family: Action on the Fermi Surface.** J. A. Wilson, Phys. Rev., B15 (June 15, 1977), pp. 5748-5757.

**Charge Transfer Complexes and Hyperpolarizabilities.** B. F. Levine, C. G. Bethea, J. Chem. Phys., 66 (February 1, 1977), pp. 1070-1074.

**Cluster Model for the Electronic Structure of the Chevrel-Phase Compound PbMo<sub>6</sub>S<sub>8</sub>.** L. F. Mattheiss, C. Fong, Phys. Rev., 15 (February 15, 1977), pp. 1760-1768.

**Direct Calculation of the Group Velocity.** R. N. Thurston, IEEE Trans. Son. Ultrason., SU-24 (1977), pp. 109-111.

**Dispersion of Electronic Surface Resonances and Crystal Surface Structure.** E. G. McRae, J. M. Landwehr, C. W. Caldwell, Phys. Rev. Lett., 38 (June 13, 1977), pp. 1422-1425.

**Electron Energy Loss Spectroscopy of the Si(111)-Simple-Metal Interface.** J. E. Rowe, G. Margaritondo, S. B. Christman, Phys. Rev. B, 15 (February 15, 1977), pp. 2195-2201.

**Excited States of Excitons Bound to Nitrogen Pairs in GaP.** E. Cohen, M. D. Sturge, Phys. Rev. B, 15, No. 2 (January 15, 1977), pp. 1039-1051.

**Laser Doppler Velocimetry of Electron-Hole Drops in Germanium.** J. Doehler, J. C. V. Mattos, J. M. Worlock, Phys. Rev. Lett. 38 (March 28, 1977), pp. 726-729.

**Laser-Doppler Velocimetry of Electron-Hole Drops in Germanium.** J. Doehler, J. C. V. Mattos, J. M. Worlock, Proc. Amer. Phys. Soc., 22 (March 1977), p. 349.

**Lateral Current Confinement by Reverse Biased Junctions in GaAs-Al<sub>x</sub>Ga<sub>1-x</sub>As DH Lasers.** W. T. Tsang, R. A. Logan, Appl. Phys. Lett., 30, (May 15, 1977), pp. 538-540.

**Many-Body Effects in X-ray Photoemission from the Noble Metals.** Y. Yafet, A. K. Wertheim, *J. Phys. F. Metal Phys.*, 7, No. 2 (1977), pp. 357-366.

**Method of Forming Novel Curved-Line Gratings and Their Use as Reflectors and Resonators in Integrated Optics.** P. K. Tien, *Opt. Lett.*, 1, No. 2 (August 1977), pp. 64-66.

**Nonlinear Optical Response of Metal-Barrier-Metal Junctions.** B. Fan, S. M. Faris, T. K. Gustafson, T. J. Bridges, *Appl. Phys. Lett.*, 30, No. 4 (February 15, 1977), pp. 177-179.

**Optical Multiplexer for Multimode Fiber Transmission Systems.** W. J. Tomlinson, G. D. Aumiller, *Appl. Phys. Lett.*, 31 (August 1, 1977), pp. 169-171.

**Orientation Dependence of Free-Carrier Impact Ionization in Semiconductors: GaAs.** T. P. Pearsall, R. E. Nahory, J. R. Chelikowsky, *Phys. Rev. Lett.*, 39 (August 1, 1977), pp. 295-298.

**Relationship Between Plate and Surface Modes of a Tube.** R. L. Rosenberg, R. N. Thurston, *J. Acoust. Soc. Amer.*, 61 (June 1977), pp. 1499-1502.