

PAPERS BY BELL LABORATORIES AUTHORS

CHEMISTRY

The Melting of Aliphatic Nylons. A. E. Tonelli, *J. Polym. Sci., PT A-2 Polym. Phys.*, *15* (1977) pp. 2051-205x.

Kerr Effect Studies of Poly(Oxyethylenes). K. M. Kelly, G. D. Patterson, and A. E. Tonelli, *Macromolecules*, *10* (1977), pp. 859-862.

Superionic Conduction in AgCrS_2 and AgCrSe_2 . D. W. Murphy, B. Tell, and H. S. Chen, *J. Electrochem. Soc.*, *124* (August 1977), pp. 1268-1271.

Tarnishing of Nickel in Air at Temperatures from 23° to 200°C and Relative Humidities from Ambient to 95%. S. H. Kulpa and R. P. Frankenthal, *J. Electrochem. Soc.*, *124* (October 1977), pp. 1588-1592.

Synthesis and Structure of BaPbO_3 . P. K. Gallagher, D. W. Johnson, Jr., E. M. Vogel, G. K. Wertheim, and F. J. Schnettler, *J. Solid State Chem.*, *21* (August 1977), pp. 277-282.

An Examination of the Chemical Staining of Silicon. D. G. Schimmel and M. J. Elkind, *J. Electrochem. Soc.*, *125* (January 1978), pp. 152-155.

Compton Profiles of LiF. K. F. Berggren, F. Martino, P. Eisenberger, and W. A. Reed, *Phys. Rev.*, *13* (March 1976), pp. 2292-2304.

The Spherical Compton Profile of Neopentane and the Carbon-Carbon Single Bond of Diamond. W. A. Reed, L. C. Snyder, P. Eisenberger, X. J. Pinder, T. Weber, and Z. Wasserman, *J. Chem. Phys.*, *67* (July 1977), pp. 143-146.

Oxidation of Silicon Without the Formation of Stacking Faults. S. P. Murarka, H. J. Levinstein, R. B. Marcus, and R. J. Wagner, *J. Appl. Phys.*, *48* (9) (September 1977), pp. 4001-4003.

ELECTRICAL AND ELECTRONIC ENGINEERING

Data Smoothing Using Low-Pass Digital Filters. J. F. Kaiser and W. A. Reed, *Rev. Sci. Instrum.*, *48* (November 1977), pp. 1447-1457.

Analysis of a Waveguide Hybrid Junction by Rank Reduction. D. N. Zuckerman and P. Diamant, *IEEE Trans. Microw. Theory Tech.*, *MTT-25* (September 1977), pp. 768-773.

A Symmetrically Balanced Linear Differential Charge Splitting Input for Charge-Coupled Devices. C. H. Sequin, M. F. Tompsett, D. A. Sealer, and R. E. Crochiere, *IEEE Trans. Electron Dev.*, *ED-24* (June 1977), pp. 746-750.

Data Smoothing Using Low-Pass Digital Filters. J. F. Kaiser and W. A. Reed, *Rev. Sci. Instrum.*, *48* (November 1977), pp. 1447-1457.

MATERIALS SCIENCE

Reduced Au-Plating on Cu Leads for Thermocompression Bonding, Part I: Initial Characterization. N. T. Panousis and P. M. Hall, *IEEE Trans. Parts, Hybrids, Packag.*, *PHP-13* (September 1977), pp. 305-309.

Role of Point Defects in the Growth of the Oxidation-Induced Stacking Faults in Silicon. S. P. Murarka, *Phys. Rev. B*, *16* (September 1977), pp. 2849-2857.

Determination by Magnetic Resonance of the Oxidation State of Species Intercalated in Graphite. L. B. Ebert and H. Selig, *Mater. Sci. Eng.*, *31* (1977), pp. 177-181.

Reactive Ion Beam Sputtering of Thin Films of Pb, Zr, and Ti. R. N. Castellano, *Thin Solid Films*, *46*, No. 2 (1977), pp. 213-221.

The Current Status of the Preparation of Single Crystals, Bicrystals and Epitaxial Layers of p-InP and of Polycrystalline p-InP Films for Photovoltaic Application. K. J. Bachmann, E. Buehler, B. I. Miller, J. H. McFee, and F. A. Thiel, *J. Cryst. Growth*, *39* (July 1977), pp. 137-150.

Vapor-Phase-Epitaxial Growth of N-AlAs/p-GaAs Solar Cells. W. D. Johnston, Jr., *J. Cryst. Growth*, *39* (1977), pp. 117-127.

Back-Surface Emitting GaAs_xSb_{1-x}LED's ($\lambda=1.0\ \mu\text{m}$) Prepared by Molecular Beam Epitaxy. A. Y. Cho, H. C. Casey, Jr., and P. W. Foy, *Appl. Phys. Lett.*, *30* (April 1977), pp. 397-399.

Growth of Single-Crystal Sapphire-Clad Ruby Ribbers. C. A. Burrus, L. A. Coldren, *Appl. Phys. Lett.*, *31* (September 1977), pp. 383-384.

GENERAL MATHEMATICS AND STATISTICS

Computational Aspects of Cutting Plane Algorithms for Geometric Programming Problems. W. H. Elliott, J. J. Dunkel, and G. A. Kochenberger, *Math. Program*, *13*, No. 2 (October 1977), pp. 200-220.

Sharp Bounds on Laplace-Stieltjes Transform, with Applications to Various Queueing Problems. A. E. Eckberg, *Math. Oper. Res.*, *2* (May 1977), pp. 135-142.

PHYSICS

Picosecond Time Resolved Reflectivity of Direct Gap Semiconductors. C. V. Shank, D. H. Auston, E. P. Ippen, and O. Teschke, *Phys. Rev. Lett.*

Anisotropy of Core Level Photoemission InSe, GaSe and Cesium W(001). N. V. Smith, P. K. Larsen, and S. Chiang, *Phys. Rev. B*, *16* (September 1977), pp. 2699-2706.

The Spin-Flop Transition in the Nearly One-Dimensional Antiferromagnets RbNiCl₃ and CsNiCl₃. E. Cohen and M. D. Sturge, *Solid State Commun.*, *24* (October 1977), pp. 51-53.

GaAs, InP, CdSe Photovoltage Transients. S. C. Dahlberg and W. A. Orr, *Surf. Sci.*, *67* (1977), pp. 226-236.

Electron Density, Temperature and Local Thermodynamic Equilibrium in Low Voltage Low Current Break Arcs: Magnesium. E. O. Degenkolb and J. E. Griffiths, *J. Opt. Soc. Amer.*, *67* (September 1977), pp. 1235-1240.

Photo-Induced Currents in Ag-Al₂O₃-Al Structures: Detection Characteristics at 325 nm. R. K. Jain, C. W. Slayman, M. G. Farrier, and T. K. Gustafson, *J. Appl. Phys.*, *48*, No. 4 (April 1977), pp. 1543-1547.

A cw Tunable Near IR (1.085-1.175 μm) Raman Oscillator. C. Lin, R. H. Stolen, W. G. French, T. G. Melone, *Opt. Lett.*, *1*, No. 3 (September 1977), pp. 96-97.

Coherent Anti-Stokes Raman Scattering in a Hollow Dielectric Waveguide. R. B. Miles, G. Laufer, and G. C. Bjorklund, *Appl. Phys. Lett.*, *30*, No. 8 (April 1977), pp. 417-419.

Threshold Characteristics and Extended Wavelength Operation of (Al, Ga) (As, Sb) Double Heterostructure Lasers. R. E. Nahory, M. A. Pollack, and J. K. Abrokwah, *J. Appl. Phys.*, *48* (September 1977), pp. 3988-3990.

Observation of Resonances in the Radiation Pressure on Dielectric Spheres. A. Ashkin, and J. M. Dziedzic, *Phys. Rev. Lett.*, *38*, No. 23 (June 1977), pp. 1351-1354.

Observation of Electron-Hole-Liquid in GaP. J. Shah, R. F. Leheny, W. R. Harding, and D. R. Wight, *Phys. Rev. Lett.*, **38**, No. 20 (May 1977), pp. 1164-1167.

Zeeman Spectroscopy of NO with the Magnetspectrophone. T. J. Bridges and E. G. Burkhardt, *Opt. Commun.*, **22**, No. 2 (August 1977), pp. 248-250.

A Tunable Multiple Stokes cw Fiber Raman Oscillator. R. K. Jain, C. Lin, R. H. Stolen, and A. Ashkin, *Appl. Phys. Lett.*, **31**, No. 2 (July 1977), pp. 89-90.

Observation of Two-Photon Optical Free-Induction Decay in Atomic Sodium Vapor. P. F. Liao, J. E. Bjorkholm, and J. P. Gordon, *Phys. Rev. Lett.*, **39**, No. 1 (July 1977), pp. 15-18.

Characteristics of High-Field Preionized Discharges for Transversely-Excited Waveguide Lasers. R. K. Jain, O. R. Wood, P. J. Maloney, and P. W. Smith, *Appl. Phys. Lett.*, **31**, No. 4 (August 1977), pp. 260-263.

High-Field Electronic Conduction in Insulators. K. K. Thornber, *Bull. Amer. Phys. Soc.*, **22** (June 1977), pp. 709-709.

Evidence for Low Surface Recombination Velocity on N-Type InP. H. C. Casey, Jr., and E. Buehler, *Appl. Phys. Lett.*, **30** (March 1977), pp. 247-249.

Search for Superfluidity in Solid ^4He . D. S. Greywall, *Phys. Rev. B*, **16** (August 1977), pp. 1291-1292.

Anisotropy of the Electron Moment Distributions in $\text{NBH}_{0.29}$. N. G. Alexandropoulos and W. A. Reed, *Phys. Rev. B*, **15** (February 1977), pp. 1790-1793.

^{77}Se NMR Study of the Electronic Instability in TiSe_2 . R. Dupree, W. Warren, and F. J. DiSalvo, *Phys. Rev. B*, **16** (August 1977), pp. 1001-1007.

Determination of Masking-Level Differences in a Reverberant Environment. A. H. Koening, J. B. Allen, and D. A. Berkley, *J. Acoust. Soc. Amer.* (May 1977), pp. 1374-1376.

