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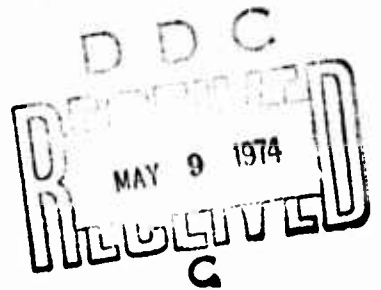
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| 490            | ELF Noise Processing                                                        | A. S. Griffiths                                                             | 13 Jan. 1972  | AD-739907      |
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| 498            | Analysis of Data from the Avon-to-Westford Experiment                       | R. K. Crane                                                                 | 3 Jan. 1973   |                |
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| 1970-2        | Suboptimal "Linearized Guidance" Laws for Stochastic Interception and Rendezvous Problems                | M. Athans                          | 19 Jan. 1970  | AD-867907      |
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| 1973-50,<br>Vol. II | An Interface to the ARPA Network for the CP/CMS Time-Sharing System - Volume II: Flow Charts | J. M. Winett<br>A. J. Sammes | 28 Nov. 1973 | AD-773832      |
| 1973-53             | Anti-resonant Frequency and the Measurement of Mechanical Admittance Data                    | R. L. Bagley                 | 10 Dec. 1973 | AD-773307      |
| 1973-55             | Multiprogramming Systems Evaluated Through Synthetic Programs                                | F. W. Vote                   | 4 Dec. 1973  | AD-771798      |

# JOURNAL ARTICLES

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| 3232  | The Moho Depth Variations under the LASA and Their Effect on $dT/d\Delta$ Measurements                                         | R. J. Greenfield<br>R. M. Sheppard                                                      | Bull. Seismol. Soc. Am. <u>59</u> , 409 (1969)                                                                    |
| 3358  | Boltzmann-Equation Study of Hot-Electron Relaxation in Metals                                                                  | R. W. Davies                                                                            | Phys. Rev. <u>181</u> , 1118 (1969),<br>DDC AD-693904                                                             |
| 3449  | Magnetoemission Experiments in $Pb_{1-x}Sn_xTe$                                                                                | J. F. Butler                                                                            | Solid State Commun. <u>7</u> , 909 (1969),<br>DDC AD-708597                                                       |
| 3460  | Metallic Oxides                                                                                                                | J. B. Goodenough                                                                        | Chap. 4 in <u>Progress in Solid State Chemistry</u> , Vol. 5, H. Reiss, Ed. (Pergamon, Oxford and New York, 1972) |
| 3496  | Barankin Bounds on Parameter Estimation                                                                                        | R. J. McAulay<br>E. M. Hofstetter                                                       | IEEE Trans. Inform. Theory <u>IT-17</u> , 669 (1971), DDC AD-736291                                               |
| 3547  | Polaron Cyclotron Resonance in CdTe                                                                                            | J. Waldman<br>D. M. Larsen<br>P. E. Tannenwald<br>C. C. Bradley<br>D. R. Cohn<br>B. Lax | Phys. Rev. Letters <u>23</u> , 1033 (1969),<br>DDC AD-704629                                                      |
| 3560  | Determination of F-Region Vertical Drifts at Millstone Hill                                                                    | J. V. Evans<br>R. A. Brockelman<br>R. F. Julian<br>W. A. Reid<br>L. A. Carpenter        | Radio Sci. <u>5</u> , 27 (1970),<br>DDC AD-704631                                                                 |
| 3641A | A Recurrence Technique for Expanding a Function in Spherical Harmonics                                                         | L. J. Ricardi<br>M. L. Burrows                                                          | IEEE Trans. Computers <u>C-21</u> , 583 (1972), DDC AD-752946                                                     |
| 3669  | Diffraction of Electromagnetic Waves by a Moving Impedance Wedge                                                               | K. C. Lang                                                                              | Radio Sci. <u>6</u> , 655 (1971),<br>DDC AD-731948                                                                |
| 3698  | Synthesis of the Fields of a Transverse Feed for a Spherical Reflector                                                         | L. J. Ricardi                                                                           | IEEE Trans. Antennas Propag. <u>AP-19</u> , 310 (1971),<br>DDC AD-731941                                          |
| 3714A | Observation of F Region Vertical Velocities at Millstone Hill, 1. Evidence for Drifts Due to Expansion, Contraction, and Winds | J. V. Evans                                                                             | Radio Sci. <u>6</u> , 609 (1971),<br>DDC AD-731927                                                                |
| 3714B | Observations of F-Region Vertical Velocities at Millstone Hill: 2. Evidence for Fluxes into and out of the Protonosphere       | J. V. Evans                                                                             | Radio Sci. <u>6</u> , 843 (1971),<br>DDC AD-737929                                                                |
| 3714C | Observations of F-Region Vertical Velocities at Millstone Hill: 3. Determination of Altitude Distribution of $H^+$             | J. V. Evans<br>J. Holt                                                                  | Radio Sci. <u>6</u> , 855 (1971),<br>DDC AD-738727                                                                |

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| 3734 | Microsound Waveguides and Waveguide Components                                                                                                  | R. A. Waldron                                                  | IEEE Trans. Sonics Ultrason. <u>SU-18</u> , 219 (1971),<br>DDC AD-737158                                                    |
| 3735 | High-Pressure Synthesis                                                                                                                         | J. B. Goodenough<br>J. A. Kafalas<br>J. M. Longo               | Chapter in <u>Preparative Methods in Solid State Chemistry</u> ,<br>P. Hagenmuller, Ed.<br>(Academic Press, New York, 1972) |
| 3738 | Effects of Hydrostatic Pressure and of Jahn-Teller Distortions on the Magnetic Properties of $\text{RbFeF}_3$                                   | J. B. Goodenough<br>N. Menyuk<br>K. Dwight<br>J. A. Kafalas    | Phys. Rev. B <u>2</u> , 4640 (1970),<br>DDC AD-734088                                                                       |
| 3751 | Composition Stability Limits for the Rocksalt-Structure Phase $(\text{Pb}_{1-y}\text{Sn}_y)_1-x\text{Te}_x$ from Lattice Parameter Measurements | R. F. Brebrick                                                 | J. Phys. Chem. Solids <u>32</u> , 551 (1971), DDC AD-738730                                                                 |
| 3757 | General Relativity and the Orbit of Icarus                                                                                                      | I. I. Shapiro<br>W. B. Smith<br>M. E. Ash<br>S. Herrick        | Astron. J. <u>76</u> , 588 (1971),<br>DDC AD-734103                                                                         |
| 3763 | An Electron Temperature Gradient Instability and Its Possible Application to the Ionosphere                                                     | D. M. Cunnold                                                  | J. Geophys. Res. <u>77</u> , 224 (1972),<br>DDC AD-737931                                                                   |
| 3775 | Partial Pressures in the Cd-Te and Zn-Te Systems                                                                                                | R. F. Brebrick                                                 | J. Electrochem. Soc. <u>118</u> , 2014 (1971), DDC AD-737160                                                                |
| 3784 | Data Adaptive Spectral Analysis Methods                                                                                                         | R. T. Lacoss                                                   | Geophysics <u>36</u> , 661 (1971),<br>DDC AD-734104                                                                         |
| 3786 | Luminescence of EuTe and Other Europium Chalcogenides                                                                                           | D. Hulin<br>J. Hanus<br>C. B. A La Guillaume<br>T. B. Reed     | Solid State Commun. <u>8</u> , 1525 (1970)                                                                                  |
| 3790 | User Program Measurement in a Time-Shared Environment                                                                                           | A. G. Nemeth<br>P. D. Rovner                                   | Commun. ACM <u>14</u> , 661 (1971),<br>DDC AD-736300                                                                        |
| 3791 | Theory of Electron-Surface-Plasmons Interactions in Tunneling, Low-Energy-Electron Diffraction, and Photoemission                               | K. L. Ngai<br>E. N. Economou                                   | Phys. Rev. B <u>4</u> , 2132 (1971),<br>DDC AD-736283                                                                       |
| 3793 | Aperture Efficiency Enhancement in Dielectrically Loaded Horns                                                                                  | G. N. Tsandoulas<br>W. D. Fitzgerald                           | IEEE Trans. Antennas Propag. <u>AP-20</u> , 69 (1972), DDC AD-738714                                                        |
| 3797 | Conductivity Studies in Europium Oxide                                                                                                          | M. R. Oliver<br>J. O. Dimmock<br>A. L. McWhorter<br>T. B. Reed | Phys. Rev. B <u>5</u> , 1078 (1972),<br>DDC AD-737932                                                                       |
| 3806 | Temporal and Spatial Gain in Stimulated Light Scattering                                                                                        | N. M. Kroll<br>P. L. Kelley                                    | Phys. Rev. A <u>4</u> , 763 (1971),<br>DDC AD-731936                                                                        |

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| 3811 | A Wide Dynamic Range Photometer for Film Densitometry                                     | D. G. Kocher                                      | J. SMPTE <u>80</u> , 481 (1971),<br>DDC AD-731934                                                                                               |
| 3818 | A High Temperature Study of Native Defects in ZnTe                                        | F. T. J. Smith                                    | J. Phys. Chem. Solids <u>32</u> , 2201 (1971), DDC AD-736280                                                                                    |
| 3821 | Detection of Interfering Rayleigh Waves at LASA                                           | J. Capon<br>J. F. Evernden                        | Bull. Seismol. Soc. Am. <u>61</u> , 807 (1971), DDC AD-734105                                                                                   |
| 3824 | Predictive Coding in a Homomorphic Vocoder                                                | C. J. Weinstein<br>A. V. Oppenheim                | IEEE Trans. Audio Electroacoust. <u>AU-19</u> , 243 (1971),<br>DDC AD-734107                                                                    |
| 3826 | Raman Spectroscopy of Solids                                                              | A. Mooradian                                      | Chap. E8 in <u>Laser Handbook</u> , F. T. Arecchi and E. O. Schulz-Du Bois, Eds. (North-Holland, Amsterdam, 1972), pp. 1409-1456, DDC AD-758937 |
| 3830 | Simultaneous Observation of Proton Precipitation and Auroral Radar Echoes                 | T. Hagfors<br>R. G. Johnson<br>R. A. Power        | J. Geophys. Res. <u>76</u> , 6093 (1971),<br>DDC AD-734109                                                                                      |
| 3835 | Structural Failures in Lightweight Solar Cell Arrays Under Thermal Cycling                | A. G. Stanley                                     | IEEE Trans. Aerospace Electron. Systems <u>AES-7</u> , 606 (1971),<br>DDC AD-737161                                                             |
| 3838 | Far-Infrared Mixing in High-Purity GaAs                                                   | B. Y. Lao<br>M. M. Litvak                         | J. Appl. Phys. <u>42</u> , 3357 (1971),<br>DDC AD-737164                                                                                        |
| 3840 | Anomalous Properties of the Vanadium Oxides                                               | J. B. Goodenough                                  | <u>Annual Review of Materials Science</u> , Vol. 1, R. A. Huggins, Ed. (Annual Reviews Inc., Palo Alto, California, 1971),<br>DDC AD-736301     |
| 3844 | LSE <sub>20</sub> -Mode Characteristics in Phase-Shifter Parametrization                  | G. N. Tsandoulas<br>F. G. Willwerth<br>W. J. Ince | IEEE Trans. Microwave Theory Tech. <u>MTT-20</u> , 253 (1972),<br>DDC AD-744385                                                                 |
| 3847 | Carrier Concentration and Mobility in n- and p-Type ZnTe-Al                               | F. T. J. Smith                                    | Solid State Commun. <u>9</u> , 957 (1971),<br>DDC AD-734111                                                                                     |
| 3848 | Limitations in the Use of Dielectric Interference Filters in Wide Angle Optical Receivers | R. M. Lerner                                      | Appl. Opt. <u>10</u> , 1914 (1971),<br>DDC AD-734112                                                                                            |
| 3853 | Evaluation of the Haystack Antenna and Radome                                             | M. L. Meeks<br>J. Ruze                            | IEEE Trans. Antennas Propag. <u>AP-19</u> , 723 (1971),<br>DDC AD-737166                                                                        |
| 3855 | Improved Electrostatic Probe for Measurement of Elastic Surface Waves                     | R. C. Williamson                                  | IEEE Trans. Sonics Ultrason. <u>SU-19</u> , 436 (1972),<br>DDC AD-752971                                                                        |

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| 3856  | Conditions for Stress-Induced Uniaxial Anisotropy in Magnetic Materials of Cubic Symmetry     | G. F. Dionne                                | Mater. Res. Bull. <u>6</u> , 805 (1971),<br>DDC AD-734113                |
| 3857A | Comment on "Observation of Nonextremal Fermi-Surface Orbits in Bulk Bismuth" - Author's Reply | V. E. Henrich                               | Phys. Rev. B <u>6</u> , 3151 (1972),<br>DDC AD-752972                    |
| 3860  | Multiple-Scattering Model for Light Transmission through Optically Thick Clouds               | H. M. Heggstad                              | J. Opt. Soc. Am. <u>61</u> , 1293 (1971),<br>DDC AD-736282               |
| 3861  | Effect of Pressure on the Crystal Structure of $\text{CsMnCl}_3$ and $\text{RbMnCl}_3$        | J. M. Longo<br>J. A. Kafalas                | J. Solid State Chem. <u>3</u> , 429 (1971),<br>DDC AD-731928             |
| 3862  | The System of Planetary Masses                                                                | M. E. Ash<br>I. I. Shapiro<br>W. B. Smith   | Science <u>174</u> , 551 (1971),<br>DDC AD-737167                        |
| 3865  | Stable Equilibria of Satellites Containing a Momentum Wheel in a Controlled Gimbal            | J. U. Beusch<br>N. P. Smith                 | J. Spacecraft <u>8</u> , 736 (1971),<br>DDC AD-731946                    |
| 3866  | Optimal Mismatched Filter Design for Radar Ranging, Detection, and Resolution                 | R. J. McAulay<br>J. R. Johnson              | IEEE Trans. Inform. Theory <u>IT-17</u> ,<br>696 (1971), DDC AD-736281   |
| 3867  | Spin-Wave Approach to Two-Magnon Raman Scattering in a Simple Antiferromagnet                 | R. W. Davies<br>S. R. Chinn<br>H. J. Zeiger | Phys. Rev. B <u>4</u> , 992 (1971),<br>DDC AD-731947                     |
| 3868  | The Two Components of the Crystallographic Transition in $\text{VO}_2$                        | J. B. Goodenough                            | J. Solid State Chem. <u>3</u> , 490 (1971),<br>DDC AD-736279             |
| 3872  | The Efficiency of Near-Field Cassegrainian Antennas                                           | W. D. Fitzgerald                            | IEEE Trans. Antennas Propag. <u>AP-20</u> , 648 (1972),<br>DDC AD-752973 |
| 3873  | Comparison of Love- and Rayleigh-Wave Multipath Propagation at LASA                           | J. Capon                                    | Bull. Seismol. Soc. Am. <u>61</u> , 1327 (1971), DDC AD-736302           |
| 3874  | Depolarization of Singly Scattered Radiation in a Turbulent Plasma                            | M. W. Halseth<br>K. Sivaprasad              | Phys. Fluids <u>15</u> , 1164 (1972),<br>DDC AD-744891                   |
| 3876  | Elimination of Stress Effects on Remanence Ratios of Cubic Magnetic Materials                 | G. F. Dionne                                | IEEE Trans. Magnetics <u>MAG-7</u> ,<br>715 (1971), DDC AD-737934        |
| 3877  | Seismicity of a Caldera Collapse: Galapagos Islands 1968                                      | J. Filson<br>T. Simkin<br>L. Leu            | J. Geophys. Res. <u>78</u> , 8591 (1973)                                 |

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| 3880 | Influence of Atomic Vacancies on the Properties of Transition-Metal Oxides. I. $\text{TiO}_x$ and $\text{VO}_x$ | J. B. Goodenough                                         | Phys. Rev. B <u>5</u> , 2764 (1972),<br>DDC AD-744386                    |
| 3882 | Effect of Surface Roughness on Ferrimagnetic Resonance Linewidth Measurements                                   | G. F. Dionne                                             | J. Appl. Phys. <u>43</u> , 1221 (1972),<br>DDC AD-744388                 |
| 3884 | Frequency Adjustable TTL Multi-vibrator with Asymmetry Control                                                  | E. J. Aho                                                | Electron. Design <u>19</u> , 68 (1971)                                   |
| 3885 | Accurate X-Ray Diffraction Measurements at High Pressures: Volume Compression of $\text{TiO}_x$                 | M. D. Banus<br>M. C. Lavine                              | High Temperatures-High Pressures <u>2</u> , 671 (1970),<br>DDC AD-736303 |
| 3887 | High Pressure Synthesis of $(\text{ABX}_3)(\text{AX})_n$ Compounds                                              | J. A. Kafalas<br>J. M. Longo                             | J. Solid State Chem. <u>4</u> , 55 (1972),<br>DDC AD-737940              |
| 3888 | Vespa Process for Analysis of Seismic Signals                                                                   | D. Davies<br>E. J. Kelly<br>J. R. Filson                 | Nature <u>232</u> , 8 (1971),<br>DDC AD-737951                           |
| 3889 | Electrical and Magnetic Properties of $\text{TiO}$ and $\text{VO}$                                              | M. D. Banus<br>T. B. Reed<br>A. J. Strauss               | Phys. Rev. B <u>5</u> , 2775 (1972),<br>DDC AD-744387                    |
| 3890 | Infrared Spectroscopy of CO Using a Tunable PbS <sub>Se</sub> Diode Laser                                       | K. W. Nill<br>F. A. Blum<br>A. R. Calawa<br>T. C. Harman | Appl. Phys. Lett. <u>19</u> , 79 (1971),<br>DDC AD-734114                |
| 3891 | Multisite Estimation of Explosive Source Parameters                                                             | J. Filson<br>C. W. Frasier                               | J. Geophys. Res. <u>77</u> , 2045 (1972),<br>DDC AD-744889               |
| 3892 | Shubnikov-de Haas Measurements in $\text{Pb}_{1-x}\text{Sn}_x\text{Se}$                                         | J. Melngailis<br>T. C. Harman<br>W. C. Kernan            | Phys. Rev. B <u>5</u> , 2250 (1972),<br>DDC AD-742593                    |
| 3894 | High Apparent Mobility in Inhomogeneous Semiconductors                                                          | C. M. Wolfe<br>G. E. Stillman<br>J. A. Rossi             | J. Electrochem. Soc. <u>119</u> , 250 (1972), DDC AD-738715              |
| 3895 | Solar Cell Degradation Experiments on the Lincoln Laboratory LES-4 and LES-5 Satellites                         | F. W. Sarles, Jr.<br>L. P. Cox                           | IEEE Trans. Electron Devices <u>ED-18</u> , 507 (1971),<br>DDC AD-731940 |
| 3896 | Power Transfer Factors for Nonuniformly Irradiated Interdigital Piezoelectric Transducers                       | R. A. Waldron                                            | IEEE Trans. Sonics Ultrason. <u>SU-19</u> , 448 (1972)                   |
| 3897 | Performance of a Transversely Excited Pulsed HF Laser                                                           | S. Marcus<br>R. J. Carbone                               | IEEE J. Quantum Electron. <u>QE-7</u> , 493 (1971), DDC AD-734115        |
| 3898 | Persistent Photodielectric Lens Effect in Cadmium Sulfide                                                       | K. B. Kanarek<br>C. D. Wyche<br>A. S. Pine               | J. Appl. Phys. <u>43</u> , 586 (1972),<br>DDC AD-742595                  |

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| 3899  | Exciton Bands in Antiferromagnetic $\text{Cr}_2\text{O}_3$                                                  | R. M. Macfarlane<br>J. W. Allen                               | Phys. Rev. B <u>4</u> , 3054 (1971)                                                 |
| 3901  | Thermal Brillouin Scattering in Cadmium Sulfide: Velocity and Attenuation of Sound; Acoustoelectric Effects | A. S. Pine                                                    | Phys. Rev. B <u>5</u> , 2997 (1972),<br>DDC AD-744392                               |
| 3902  | Resonance Brillouin Scattering in Cadmium Sulfide                                                           | A. S. Pine                                                    | Phys. Rev. B <u>5</u> , 3003 (1972),<br>DDC AD-744393                               |
| 3905  | Structure of Orthorhombic $\text{V}_{0.95}\text{Cr}_{0.05}\text{O}_2$                                       | J. W. Pierce<br>J. B. Goodenough                              | Phys. Rev. B <u>5</u> , 4104 (1972),<br>DDC AD-744894                               |
| 3906  | Error Performance Bounds for Two Receivers for Optical Communication and Detection                          | E. A. Bucher                                                  | Appl. Opt. <u>11</u> , 884 (1972),<br>DDC AD-718099                                 |
| 3908  | Spin-Wave Theory of Two-Magnon Raman Scattering in a Two-Dimensional Antiferromagnet                        | S. R. Chinn<br>R. W. Davies<br>H. J. Zeiger                   | Phys. Rev. B <u>4</u> , 4017 (1971),<br>DDC AD-737168                               |
| 3911A | Superconductivity in Cubic and Monoclinic "TiO"                                                             | T. B. Reed<br>M. D. Banus<br>M. Sjöstrand<br>P. H. Keesom     | J. Appl. Phys. <u>43</u> , 2478 (1972),<br>DDC AD-752947                            |
| 3913A | Precision Verification of Effective Mass Theory for Shallow Donors in GaAs                                  | G. E. Stillman<br>D. M. Larsen<br>C. M. Wolfe<br>R. C. Brandt | Solid State Commun. <u>9</u> , 2245 (1971),<br>DDC AD-742597                        |
| 3914A | On the Optimum Squint Angles of Amplitude Monopulse Radar and Beacon Tracking Systems                       | H. Berger                                                     | IEEE Trans. Aerospace Electron. Systems <u>AES-8</u> , 545 (1972),<br>DDC AD-752986 |
| 3915  | The Tetragonal High-Pressure Form of $\text{TaOPO}_4$                                                       | J. M. Longo<br>J. W. Pierce<br>J. A. Kafalas                  | Mater. Res. Bull. <u>6</u> , 1157 (1971),<br>DDC AD-737169                          |
| 3916  | "Mass Anomaly" in the Zeeman Effect of GaAs Donor 2p Levels                                                 | G. E. Stillman<br>D. M. Larsen<br>C. M. Wolfe                 | Phys. Rev. Letters <u>27</u> , 989 (1971),<br>DDC AD-737156                         |
| 3917  | Comment on the Magnetic Properties of Several Indium Thiospinels                                            | J. B. Goodenough                                              | J. Solid State Chem. <u>4</u> , 292 (1972),<br>DDC AD-738716                        |
| 3918  | Capacitance-Voltage Characteristics of Metal Barriers on p PbTe and p InAs: Effects of the Inversion Layer  | J. N. Walpole<br>K. W. Nill                                   | J. Appl. Phys. <u>42</u> , 5609 (1971)                                              |
| 3919  | EuTe. I. Magnetic Behavior of Insulating and Conducting Single Crystals                                     | N. F. Oliveira, Jr.<br>S. Foner<br>Y. Shapira<br>T. B. Reed   | Phys. Rev. B <u>5</u> , 2634 (1972),<br>DDC AD-742603                               |

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| 3920  | EuTe. II. Resistivity and Hall Effect                                                                               | Y. Shapira<br>S. Foner<br>N. F. Oliveira, Jr.<br>T. B. Reed                     | Phys. Rev. B <u>5</u> , 2647 (1972),<br>DDC AD-742606        |
| 3921  | EuTe. III. Ultrasonic Behavior                                                                                      | Y. Shapira<br>T. B. Reed                                                        | Phys. Rev. B <u>5</u> , 2657 (1972),<br>DDC AD-741613        |
| 3924  | Two-Dimensional Windows                                                                                             | T. S. Huang                                                                     | IEEE Trans. Audio Electroacoust.<br><u>AU-20</u> , 88 (1972) |
| 3927  | Secondary Electron Emission from Ion-Implanted Silicon                                                              | G. T. Konrad                                                                    | J. Appl. Phys. <u>43</u> , 1996 (1972),<br>DDC AD-752936     |
| 3928  | Coexistence of Localized and Itinerant d Electrons                                                                  | J. B. Goodenough                                                                | Mater. Res. Bull. <u>6</u> , 967 (1971),<br>DDC AD-737157    |
| 3929  | Effect of Pressures to 50 kbar on the Magnetic Behavior of MnP                                                      | M. D. Banus                                                                     | J. Solid State Chem. <u>4</u> , 391 (1972),<br>DDC AD-744895 |
| 3932  | Ionospheric Movements Measured by Incoherent Scatter: A Review                                                      | J. V. Evans                                                                     | J. Atmos. Terr. Phys. <u>34</u> , 175 (1972), DDC AD-738717  |
| 3936  | Radiation Properties of the Binomial Array                                                                          | L. J. Ricardi                                                                   | Microwave J. <u>15</u> , 20 (1972)                           |
| 3937  | Fourier Expansion for Electronic Bands in Trigonal Tellurium and Selenium                                           | G. Dresselhaus                                                                  | Phys. Rev. B <u>5</u> , 1538 (1972),<br>DDC AD-738718        |
| 3938  | Kinetic Theory of Density Fluctuations in a Magnetized Collision-Dominated Plasma in an Electric Field              | T. Hagfors<br>R. A. Power                                                       | J. Geophys. Res. <u>77</u> , 4190 (1972),<br>DDC AD-758946   |
| 3939  | Study of the Optical Shubnikov-de Haas Effect                                                                       | F. P. Missell<br>M. S. Dresselhaus                                              | Phys. Rev. B <u>5</u> , 1364 (1972),<br>DDC AD-738719        |
| 3940  | Raman Scattering from Europium Chalcogenides                                                                        | R. K. Ray<br>J. C. Tsang<br>M. S. Dresselhaus<br>R. L. Aggarwal<br>T. B. Reed   | Phys. Letters <u>37A</u> , 129 (1971),<br>DDC AD-742615      |
| 3942A | Observation of $\Lambda$ -Doubling and Zeeman Splitting in the Fundamental Infrared Absorption Band of Nitric Oxide | K. W. Nill<br>F. A. Blum<br>A. R. Calawa<br>T. C. Harman                        | Chem. Phys. Letters <u>14</u> , 234 (1972), DDC AD-752963    |
| 3943A | Non- $\Gamma$ Donor Levels and Kinetics of Electron Transfer in n-Type CdTe                                         | G. W. Iseler<br>J. A. Kafalas<br>A. J. Strauss<br>H. F. MacMillan<br>R. H. Bube | Solid State Commun. <u>10</u> , 619 (1972), DDC AD-758941    |
| 3944  | Measurements of D- and E-Region Electron Densities by the Incoherent Scatter Technique at Millstone Hill            | G. W. Armistead<br>J. V. Evans<br>W. A. Reid                                    | Radio Sci. <u>7</u> , 153 (1972),<br>DDC AD-742616           |

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### JA No.

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|------|-----------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| 3945 | Measurements of Horizontal Drifts in the E and F Regions at Millstone Hill                                                  | J. V. Evans                                                                     | J. Geophys. Res. <u>77</u> , 2341 (1972), DDC AD-752948                           |
| 3946 | Aluminum Interconnections and Beam Leads on Polyimide-Coated Copper Substrates                                              | F. J. Bachner                                                                   | IEEE Trans. Parts, Hybrids, and Packaging <u>PHP-8</u> , 30 (1972), DDC AD-752949 |
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| 3949 | $\text{Pb}_{1-x}\text{Sn}_x\text{Te}$ Photovoltaic Diodes and Diode Lasers Produced by Proton Bombardment                   | J. P. Donnelly<br>A. R. Calawa<br>T. C. Harman<br>A. G. Foyt<br>W. T. Lindley   | Solid-State Electron. <u>15</u> , 403 (1972), DDC AD-742617                       |
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| 3951 | Carrier Freeze-out and Acceptor Energies in p-Type $\text{Hg}_{1-x}\text{Cd}_x\text{Te}$                                    | C. T. Elliott<br>I. Melngailis<br>T. C. Harman<br>A. G. Foyt                    | J. Phys. Chem. Solids <u>33</u> , 1527 (1972), DDC AD-752964                      |
| 3953 | Measurement of the Lattice Parameter of Wustite at High Temperatures                                                        | M. Hayakawa<br>J. B. Cohen<br>T. B. Reed                                        | J. Am. Ceram. Soc. <u>55</u> , 160 (1972)                                         |
| 3954 | Stability of Two-Dimensional Recursive Filters                                                                              | T. S. Huang                                                                     | IEEE Trans. Audio Electroacoust. <u>AU-20</u> , 158 (1972), DDC AD-752937         |
| 3957 | Pressure Dependence of the Carrier Concentrations in p-Type Alloys of $\text{Hg}_{1-x}\text{Cd}_x\text{Te}$ at 4.2 and 77°K | C. T. Elliott<br>J. Melngailis<br>T. C. Harman<br>J. A. Kafalas<br>W. C. Kernan | Phys. Rev. B <u>5</u> , 2985 (1972), DDC AD-744394                                |
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| 3962 | Experiment on Cross Relaxation in $\text{CO}_2$                                                                             | H. Granek<br>C. Freed<br>H. A. Haus                                             | IEEE J. Quantum Electron. <u>QE-8</u> , 404 (1972), DDC AD-743824                 |
| 3963 | Fast-Switching Modulator Reverses UHF Signal Phase                                                                          | R. N. Assaly                                                                    | Electronics <u>45</u> , 74 (1972), DDC AD-752938                                  |
| 3965 | Optically Pumped Room-Temperature $\text{In}_x\text{Ga}_{1-x}\text{As}$ Lasers                                              | J. A. Rossi<br>S. R. Chinn<br>A. Mooradian                                      | Appl. Phys. Letters <u>20</u> , 84 (1972), DDC AD-737941                          |

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| 3967  | Sealed Crucible Technique for Thermal Analysis of Volatile Compounds up to 2500°C: Melting Points of EuO, EuS, EuSe and EuTe | T. B. Reed<br>R. E. Fahey<br>A. J. Strauss               | J. Crystal Growth <u>15</u> , 174 (1972),<br>DDC AD-753368               |
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| 3969  | Energy Bands in TX <sub>2</sub> Compounds with Pyrite, Marcasite, and Arsenopyrite Structures                                | J. B. Goodenough                                         | J. Solid State Chem. <u>5</u> , 144 (1972),<br>DDC AD-752940             |
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| 3971  | Raman Scattering in Paratellurite, TeO <sub>2</sub>                                                                          | A. S. Pine<br>G. Dresselhaus                             | Phys. Rev. B <u>5</u> , 4087 (1972),<br>DDC AD-744893                    |
| 3974  | Amplitude-Renormalization Factor in Two-Magnon Raman Scattering                                                              | R. W. Davies                                             | Phys. Rev. B <u>5</u> , 4598 (1972),<br>DDC AD-752941                    |
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| 3976  | TEA Laser Medium Diagnostics                                                                                                 | R. W. O'Neil<br>R. J. Carbone<br>H. Granek<br>H. Kleiman | Appl. Phys. Letters <u>20</u> , 461 (1972),<br>DDC AD-752950             |
| 3978  | Representation of Nonlinear Data Surfaces                                                                                    | D. R. Olsen<br>K. Fukunaga                               | IEEE Trans. Computers <u>C-22</u> , 915 (1973)                           |
| 3979  | Discrete Convolutions via Mersenne Transforms                                                                                | C. M. Rader                                              | IEEE Trans. Computers <u>C-21</u> , 1269 (1972), DDC AD-758938           |
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| 3987  | Comments on Paper by<br>A. Manoogian: Interpretation<br>of $Ti^{3+}$ Electron Spin Resonance<br>Spectra in Alums                  | G. F. Dionne                                                  | Can. J. Phys. <u>50</u> , 2232 (1972)                                              |
| 3988  | Single Crystal Growth of<br>$Hg_{1-x}Cd_xTe$                                                                                      | T. C. Harman                                                  | J. Electronic Materials <u>1</u> , 230<br>(1972)                                   |
| 3990  | Monitoring Underground<br>Explosions                                                                                              | D. Davies                                                     | Nature <u>241</u> , 19 (1973),<br>DDC AD-772138                                    |
| 3991  | PKJKP                                                                                                                             | B. R. Julian<br>D. Davies<br>R. M. Sheppard                   | Nature <u>235</u> , 317 (1972),<br>DDC AD-744396                                   |
| 3992  | Preparation and Structure of a<br>Pyrochlore and Perovskite in<br>the $BiRhO_{3+x}$ System                                        | J. M. Longo<br>P. M. Raccach<br>J. A. Kafalas<br>J. W. Pierce | Mater. Res. Bull. <u>7</u> , 137 (1972),<br>DDC AD-738749                          |
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| 3999  | Another View of Dimensions<br>and dB                                                                                              | W. W. Ward                                                    | Proc. IEEE (Letters) <u>60</u> , 743<br>(1972), DDC AD-752966                      |
| 4000  | Twyman-Green Interferometer<br>to Test Large Aperture Optical<br>Systems                                                          | D. G. Kocher                                                  | Appl. Opt. <u>11</u> , 1872 (1972),<br>DDC AD-752995                               |
| 4001  | X-Ray Lithography - A New High<br>Resolution Replication Process                                                                  | D. L. Spears<br>H. I. Smith                                   | Solid State Tech. <u>15</u> , 21 (1972),<br>DDC AD-759257                          |
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| 4020 | The Causes of Storm-Time Increases of the F-Layer at Mid-latitudes                           | J. V. Evans                                                   | J. Atmos. Terr. Phys. <u>35</u> , 593 (1973), DDC AD-771877                         |
| 4021 | Initial Discrimination Results from the Norwegian Seismic Array                              | J. R. Filson<br>H. Bungum                                     | Geophys. J. R. Astr. Soc. <u>31</u> , 315 (1972), DDC AD-763578                     |
| 4022 | Excitation of a Long-Pulse $\text{CO}_2$ Laser with a Short-Pulse Longitudinal Electron Beam | S. Marcus                                                     | Appl. Phys. Letters <u>21</u> , 18 (1972),<br>DDC AD-752953                         |
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| 4028 | A Laser Scanner for Integrated Circuit Testing                                                                                              | R. E. McMahon                                                                                   | Proceedings of 10th Annual Reliability Symposium, Las Vegas, Nevada, 5-7 April 1972, pp. 23-25                                             |
| 4029 | High-Pressure Technology and Magnetism                                                                                                      | J. B. Goodenough                                                                                | Opportunities in High-Pressure Technology - A Report of the National Materials Advisory Board (Publication NMAB 303, January 1973), p. 175 |
| 4030 | Parallelism in Fast Fourier Transform Hardware                                                                                              | B. Gold<br>T. Bially                                                                            | IEEE Trans. Audio Electroacoust. <u>AU-21</u> , 5 (1973), DDC AD-763573                                                                    |
| 4031 | Observations of Short-Period Seismic Energy from Earthquakes and Interferences about the Seismic Source                                     | D. Davies<br>A. M. Ziolkowski                                                                   | Geophys. J. R. Astr. Soc. <u>31</u> , 131 (1972), DDC AD-763575                                                                            |
| 4033 | Compositional Dependence of Effective Masses in n-Type Ga <sub>x</sub> In <sub>1-x</sub> As Alloys Using Sub-millimeter Cyclotron Resonance | H. R. Fetterman<br>J. Waldman<br>C. M. Wolfe                                                    | Solid State Commun. <u>11</u> , 375 (1972), DDC AD-752997                                                                                  |
| 4035 | Mercury's Perihelion Advance: Determination by Radar                                                                                        | I. I. Shapiro<br>G. H. Pettengill<br>M. E. Ash<br>R. P. Ingalls<br>D. B. Campbell<br>R. B. Dyce | Phys. Rev. Letters <u>28</u> , 1594 (1972), DDC AD-752955                                                                                  |
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| 4039 | Radial Mode Analysis of Electromagnetic Wave Propagation on Slotted Cylindrical Structures                                                  | M. H. Chen                                                                                      | IEEE Trans. Antennas Propag. <u>AP-21</u> , 314 (1973)                                                                                     |
| 4040 | Tunable Infra-red Lasers and Their Applications to Air Pollution Measurements                                                               | E. D. Hinkley                                                                                   | Opto-electronics <u>4</u> , 69 (1972)                                                                                                      |
| 4041 | The Feasibility of Producing Laser Plasmas Via Photo-ionization                                                                             | A. Javan<br>J. S. Levine                                                                        | IEEE J. Quantum Electron. <u>QE-8</u> , 827 (1972), DDC AD-753308                                                                          |

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| 4044  | On the Composite Model for Rough-Surface Scattering                                        | M. L. Burrows                                                         | IEEE Trans. Antennas Propag. <u>AP-21</u> , 241 (1973),<br>DDC AD-772145 |
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| 4047  | Fog Droplet Vaporization and Fragmentation by a 10.6- $\mu$ m Laser Pulse                  | P. Kafalas<br>A. P. Ferdinand, Jr.                                    | Appl. Opt. <u>12</u> , 29 (1973),<br>DDC AD-758948                       |
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| 4068 | Two-Phonon Deformation Potential in InSb                                                                | K. L. Ngai<br>E. J. Johnson                                     | Phys. Rev. Letters <u>29</u> , 1607 (1972)                                                |
| 4070 | Optical Properties of Graphite                                                                          | L. G. Johnson<br>G. Dresselhaus                                 | Phys. Rev. B <u>7</u> , 2275 (1973), DDC AD-763574                                        |
| 4071 | Double-Heterostructure GaAs:Si Diode Lasers                                                             | J. A. Rossi<br>J. J. Hsieh                                      | Appl. Phys. Letters <u>21</u> , 287 (1972), DDC AD-753005                                 |
| 4072 | Submillimeter Spectroscopy                                                                              | H. R. Fetterman<br>H. R. Schlossberg<br>J. Waldman              | Laser Focus <u>8</u> , 4J (1972), DDC AD-753006                                           |
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| 4088 | High-Energy Pulsed CO <sub>2</sub> -Laser-Target Interactions in Air                 | J. E. Lowder<br>D. E. Lencioni<br>T. W. Hilton<br>R. J. Hull                                                                                     | J. Appl. Phys. <u>44</u> , 2759 (1973),<br>DDC AD-772134                                                                          |
| 4089 | Exciton Levels in a Magnetic Field                                                   | N. Lee<br>D. M. Larsen<br>B. Lax                                                                                                                 | J. Phys. Chem. Solids <u>34</u> , 1059 (1973)                                                                                     |
| 4090 | Performance Improvements in Solid Fuel Microthrusters                                | R. J. Vondra<br>K. I. Thomassen                                                                                                                  | J. Spacecraft <u>9</u> , 738 (1972),<br>DDC AD-737930                                                                             |
| 4091 | The Lincoln Training System                                                          | L. M. Goodman<br>J. R. Brown<br>F. C. Frick<br>W. P. Harris<br>D. Karp<br>R. R. LaFrey                                                           | IEEE Trans. Commun. <u>COM-21</u> , 1335 (1973)                                                                                   |
| 4092 | Terminology in Digital Signal Processing                                             | L. R. Rabiner<br>J. W. Cooley<br>H. D. Helms<br>L. B. Jackson<br>J. F. Kaiser<br>C. M. Rader<br>R. W. Schafer<br>K. Steiglitz<br>C. J. Weinstein | IEEE Trans. Audio Electroacoust. <u>AU-20</u> , 322 (1972),<br>DDC AD-758930                                                      |
| 4093 | Optical "Seeing" Through the Atmosphere by Interferometric Techniques                | D. Kelsall                                                                                                                                       | J. Opt. Soc. Am. <u>63</u> , 1472 (1973),<br>DDC AD-773980                                                                        |
| 4094 | Theory of the Spontaneous Spin-Flip Raman Line Shape in InSb                         | R. W. Davies                                                                                                                                     | Phys. Rev. B <u>7</u> , 3731 (1973),<br>DDC AD-772219                                                                             |
| 4096 | Interferometric Density Measurements in the Arc of a Pulsed Plasma Thruster          | K. I. Thomassen<br>D. Tong                                                                                                                       | J. Spacecraft <u>10</u> , 163 (1973),<br>DDC AD-744384                                                                            |
| 4097 | High Resolution Photoconductivity Studies of Residual Shallow Donors in Ultrapure Ge | S. D. Seccombe<br>D. M. Korn                                                                                                                     | Solid State Commun. <u>11</u> , 1539 (1972), DDC AD-759089                                                                        |
| 4100 | Seismology with Large Arrays                                                         | D. Davies                                                                                                                                        | Chapter in <u>Reports on Progress in Physics</u> , Vol. 36 (The Institute of Physics, London, 1973), pp. 1233-1283, DDC AD-771893 |
| 4102 | Aids to the Delivery of Ambulatory Medical Care                                      | H. Sherman<br>B. Reiffen<br>A. L. Komaroff                                                                                                       | IEEE Trans. Bio-Med. Eng. <u>BME-20</u> , 165 (1973)                                                                              |
| 4105 | Dependence of the Insulator-Metal Transition in EuO on Magnetic Order                | Y. Shapira<br>S. Foner<br>T. B. Reed<br>H. Birecki<br>H. E. Stanley                                                                              | Physics Letters <u>41A</u> , 471 (1972)                                                                                           |

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| 4106 | Identification of Donor Species in High-Purity GaAs Using Optically Pumped Submillimeter Lasers                                          | H. R. Fetterman<br>J. Waldman<br>C. M. Wolfe<br>G. E. Stillman<br>C. D. Parker | Appl. Phys. Letters <u>21</u> , 434 (1972),<br>DDC AD-753310                                                                                  |
| 4107 | Procedure for Polishing PbS and $\text{PbS}_{1-x}\text{Se}_x$                                                                            | G. A. Ferrante<br>M. C. Lavine<br>T. C. Harman<br>J. P. Donnelly               | J. Electrochem. Soc. <u>120</u> , 310 (1973),<br>DDC AD-759092                                                                                |
| 4108 | A Decision-Directed Adaptive Tracker                                                                                                     | R. J. McAulay<br>E. Denlinger                                                  | IEEE Trans. Aerospace Electron. Systems <u>AES-9</u> , 229 (1973),<br>DDC AD-771828                                                           |
| 4110 | Prediction and Suppression of Long-Period Nonpropagating Seismic Noise                                                                   | A. Ziolkowski                                                                  | Bull. Seismol. Soc. Am. <u>63</u> , 937 (1973),<br>DDC AD-772222                                                                              |
| 4111 | Observations of PcP and P Phases at LASA at Distances from 26° to 40°                                                                    | D. K. Chowdhury<br>C. W. Frasier                                               | J. Geophys. Res. <u>78</u> , 6021 (1973),<br>DDC AD-772139                                                                                    |
| 4112 | The Use of Surface-Elastic-Wave Reflection Gratings in Large Time-Bandwidth Pulse-Compression Filters                                    | R. C. Williamson<br>H. I. Smith                                                | IEEE Trans. Microwave Theory Tech. <u>MTT-21</u> , 195 (1973) and<br>IEEE Trans. Sonics Ultrason. <u>SU-20</u> , 113 (1973),<br>DDC AD-772211 |
| 4113 | Stress-Induced Spin Flop in $\text{Cr}_2\text{O}_3$                                                                                      | J. W. Allen                                                                    | Phys. Rev. B <u>7</u> , 4915 (1973),<br>DDC AD-772212                                                                                         |
| 4114 | Interpretation of Structure and Magnetism in Transition-Metal Pnictides $\text{M}_2\text{X}$ and $(\text{M}_{1-x}\text{M}'_x)_2\text{X}$ | J. B. Goodenough                                                               | J. Solid State Chem. <u>7</u> , 428 (1973),<br>DDC AD-772147                                                                                  |
| 4115 | Anomalously High "Mobility" in GaAs                                                                                                      | C. M. Wolfe<br>G. E. Stillman<br>D. L. Spears<br>D. E. Hill<br>F. V. Williams  | J. Appl. Phys. <u>44</u> , 732 (1973),<br>DDC AD-759090                                                                                       |
| 4116 | Growth of Crystals of $\text{V}_2\text{O}_3$ and $(\text{V}_{1-x}\text{Cr}_x)_2\text{O}_3$ by the Tri-Arc Czochralski Method             | J. C. C. Fan<br>T. B. Reed                                                     | Mater. Res. Bull. <u>7</u> , 1403 (1972),<br>DDC AD-758947                                                                                    |
| 4117 | $\text{CO}_2$ Laser Pulse Shaping with Saturable Absorbers                                                                               | H. Kleiman<br>S. Marcus                                                        | J. Appl. Phys. <u>44</u> , 1646 (1973),<br>DDC AD-771826                                                                                      |
| 4118 | Effect of Surface States on the Amphoteric Behavior of Sn in Vapor Epitaxial GaAs                                                        | C. M. Wolfe<br>G. E. Stillman                                                  | Solid State Commun. <u>12</u> , 283 (1973),<br>DDC AD-763583                                                                                  |
| 4119 | Electron Radiation Damage and Annealing of $\text{Hg}_{1-x}\text{Cd}_x\text{Te}$ at Low Temperatures                                     | J. Melngailis<br>J. L. Ryan<br>T. C. Harman                                    | J. Appl. Phys. <u>44</u> , 2647 (1973),<br>DDC AD-771844                                                                                      |
| 4120 | Structures and a Two-Band Model for the System $\text{V}_{1-x}\text{Cr}_x\text{O}_2$                                                     | J. B. Goodenough<br>H. Y-P. Hong                                               | Phys. Rev. B <u>8</u> , 1323 (1973),<br>DDC AD-772218                                                                                         |

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| 4121 | Dynamics and Energetics of the Explosive Vaporization of Fog Droplets by a 10.6- $\mu$ m Laser Pulse                                                         | P. Kafalas<br>J. Herrmann                     | Appl. Opt. <u>12</u> , 772 (1973),<br>DDC AD-771830                      |
| 4122 | Line Shape of the Doppler-Limited Infrared Magnetic Rotation Spectrum of Nitric Oxide                                                                        | F. A. Blum<br>K. W. Nill<br>A. J. Strauss     | J. Chem. Phys. <u>58</u> , 4968 (1973),<br>DDC AD-772136                 |
| 4123 | A Theorem About Zig-Zags Between Two Circles                                                                                                                 | W. L. Black<br>H. C. Howland<br>B. Howland    | Accepted American Mathematical Monthly                                   |
| 4124 | Near-Resonance Spontaneous-Spin-Flip Light Scattering in InSb                                                                                                | S. R. J. Brueck<br>A. Mooradian<br>F. A. Blum | Phys. Rev. B <u>7</u> , 5253 (1973),<br>DDC AD-772151                    |
| 4125 | Cone-Bounded Nonlinearities and Mean-Square Bounds - Estimation Upper Bound                                                                                  | A. S. Gilman<br>I. B. Rhodes                  | IEEE Trans. Automatic Control <u>AC-18</u> , 260 (1973)                  |
| 4126 | Seasonal and Sunspot Cycle Variations of F Region Electron Temperatures and Protonospheric Heat Fluxes                                                       | J. V. Evans                                   | J. Geophys. Res. <u>78</u> , 2344 (1973),<br>DDC AD-772214               |
| 4128 | Multiple-Access Considerations - A Satellite Example                                                                                                         | I. G. Stiglitz                                | IEEE Trans. Commun. <u>COM-21</u> , 577 (1973)                           |
| 4130 | Fast, Accurate Secondary-Electron Yield Measurements at Low Primary Energies                                                                                 | V. E. Henrich                                 | Rev. Sci. Instrum. <u>44</u> , 456 (1973),<br>DDC AD-772119              |
| 4131 | Observation of Laser Oscillation in a 1-Atm CO <sub>2</sub> -N <sub>2</sub> -He Laser Pumped by an Electrically Heated Plasma Generated via Photo-ionization | J. S. Levine<br>A. Javan                      | Appl. Phys. Lett. <u>22</u> , 55 (1973),<br>DDC AD-759094                |
| 4132 | A Wide-Band Square-Waveguide Array Polarizer                                                                                                                 | M. H. Chen<br>G. N. Tsandoulas                | IEEE Trans. Antennas Propag. <u>AP-21</u> , 389 (1973),<br>DDC AD-772199 |
| 4133 | Millstone Hill Thomson Scatter Results for 1966 and 1967                                                                                                     | J. V. Evans                                   | Planet. Space Sci. <u>21</u> , 763 (1973),<br>DDC AD-772137              |
| 4134 | Discussion of "Chemical Vapor Deposited Polycrystalline Silicon"                                                                                             | C. M. Wolfe<br>G. E. Stillman<br>J. A. Rossi  | J. Electrochem. Soc. <u>120</u> , 848 (1973), DDC AD-771816              |
| 4135 | The Radar Cross Section of a Noded Pyramid                                                                                                                   | W. H. Schoendorf                              | IEEE Trans. Antennas Propag. <u>AP-21</u> , 732 (1973),<br>DDC AD-772197 |
| 4136 | The Development of the ATC Radar Beacon System: Past, Present, and Future                                                                                    | P. R. Drouilhet, Jr.                          | IEEE Trans. Commun. <u>COM-21</u> , 408 (1973)                           |

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| 4138  | The Effect of Staggered PRF's on MTI Signal Detection                                                                   | R. J. McAulay                                                  | IEEE Trans. Aerospace Electron. Systems <u>AES-9</u> , 615 (1973), DDC AD-771831 |
| 4139  | A New Technique for Interconnecting and Packaging Integrated Circuits on Flexible Substrates                            | F. J. Bachner                                                  | Insulation/Circuits <u>19</u> , 71 (1973)                                        |
| 4141  | Seismic Travel Time Evidence for Lateral Inhomogeneity in the Deep Mantle                                               | B. R. Julian<br>M. K. Sengupta                                 | Nature <u>242</u> , 443 (1973)                                                   |
| 4142  | Effects of Mirror Reflectivity in a Distributed-Feedback Laser                                                          | S. R. Chinn                                                    | IEEE J. Quantum Electron. <u>QE-9</u> , 574 (1973), DDC AD-771837                |
| 4143  | High-Power Output in $Pb_{1-x}Sn_xTe$ Diode Lasers with Improved Mirror Quality                                         | J. N. Walpole<br>A. R. Calawa<br>R. W. Ralston<br>T. C. Harman | J. Appl. Phys. <u>44</u> , 2905 (1973), DDC AD-772146                            |
| 4148  | Backward Stimulated Light Scattering and the Limiting Diameters of Self-Focused Light Beams                             | P. L. Kelley<br>T. K. Gustafson                                | Phys. Rev. A <u>8</u> , 315 (1973), DDC AD-771825                                |
| 4149A | Simple Modification to Commercial Michelson Transform Spectrometer for Increased Resolution                             | D. M. Korn                                                     | Rev. Sci. Instrum. <u>44</u> , 1135 (1973), DDC AD-772215                        |
| 4150  | Analysis of Microseismic Noise at LASA, NORSAR and ALPA                                                                 | J. Capon                                                       | Accepted Geophys. J.                                                             |
| 4151  | Pressure-Tuned GaAs Diode-Laser Absorption Spectroscopy of Xenon Hyperfine Structure                                    | A. S. Pine<br>C. J. Glassbrenner<br>J. A. Kafalas              | IEEE J. Quantum Electron. <u>QE-9</u> , 800 (1973)                               |
| 4152  | Stress Dependence and the Latent Heat of the Morin Transition in $Fe_2O_3$                                              | J. W. Allen                                                    | Phys. Rev. B <u>8</u> , 3224 (1973), DDC AD-772230                               |
| 4153  | Electronic Structure of Transition Metals. II. Phonon Spectra                                                           | A. O. E. Animalu                                               | Phys. Rev. B <u>8</u> , 3555 (1973), DDC AD-773996                               |
| 4154  | A Device Characterization and Circuit Design Procedure for Realizing High-Power Millimeter-Wave IMPATT-Diode Amplifiers | D. F. Peterson                                                 | IEEE Trans. Microwave Theory Tech. <u>MTT-21</u> , 681 (1973)                    |
| 4155  | Nonlinear Power Amplification at the Second Harmonic in TRAPATT Diodes                                                  | B. Rama Rao                                                    | Electron. Lett. <u>9</u> , 526 (1973)                                            |
| 4156  | Babinet's Principle for a Perfectly Conducting Screen with Aperture Covered by Resistive Sheet                          | K. C. Lang                                                     | IEEE Trans. Antennas Propag. <u>AP-21</u> , 738 (1973), DDC AD-772114            |

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| 4157 | Tunable Laser Measurements of Water Vapor Transitions in the Vicinity of 5 $\mu\text{m}$                        | R. S. Eng<br>P. L. Kelley<br>A. Mooradian<br>A. R. Calawa<br>T. C. Harman | Chem. Phys. Letters <u>19</u> , 524 (1973), DDC AD-771905                        |
| 4158 | Electronic Structure of Transition Metals. I. Quantum Defects and Model Potential                               | A. O. E. Animalu                                                          | Phys. Rev. B <u>8</u> , 3542 (1973), DDC AD-773979                               |
| 4159 | Surface Mobility Measurement Using Acoustic Surface Waves                                                       | A. Bers<br>J. H. Cafarella<br>B. E. Burke                                 | Appl. Phys. Lett. <u>22</u> , 399 (1973), DDC AD-763572                          |
| 4160 | The Combined Use of Satellite Differential Doppler and Ground-Based Measurements for Ionospheric Studies        | J. V. Evans<br>J. M. Holt                                                 | IEEE Trans. Antennas Propag. <u>AP-21</u> , 685 (1973), DDC AD-772225            |
| 4162 | Effects of Secondary Electron Scattering on Secondary Emission Yield Curves                                     | G. F. Dionne                                                              | J. Appl. Phys. <u>44</u> , 5361 (1973)                                           |
| 4164 | The Analysis and Design of Dual-Polarization Square-Waveguide Phased Arrays                                     | G. N. Tsandoulas<br>G. F. Knittel                                         | IEEE Trans. Antennas Propag. <u>AP-21</u> , 796 (1973)                           |
| 4168 | Infrared Reflectivity of Paratellurite, $\text{TeO}_2$                                                          | D. M. Korn<br>A. S. Pine<br>G. Dresselhaus<br>T. B. Reed                  | Phys. Rev. B <u>8</u> , 768 (1973), DDC AD-772221                                |
| 4169 | Field Dependent Central Cell Correction in Germanium in a Magnetic Field                                        | N. Lee<br>D. M. Larsen<br>B. Lax                                          | J. Phys. Chem. Solids <u>34</u> , 1817 (1973)                                    |
| 4170 | Accumulation-Layer Surface-Wave Convolver                                                                       | J. M. Smith<br>E. Stern<br>A. Bers                                        | Electron. Lett. <u>9</u> , 145 (1973), DDC AD-772115                             |
| 4171 | Interpretation of the Transport Properties of $\text{Ln}_2\text{NiO}_4$ and $\text{Ln}_2\text{CuO}_4$ Compounds | J. B. Goodenough                                                          | Mater. Res. Bull. <u>8</u> , 423 (1973), DDC AD-763576                           |
| 4172 | A UHF True Logarithmic IF Amplifier                                                                             | B. Loesch                                                                 | IEEE Trans. Aerospace Electron. Systems <u>AES-9</u> , 660 (1973), DDC AD-773998 |
| 4174 | Optimum Choice of Pulse Pair Spacing                                                                            | R. A. Williams                                                            | Proc. IEEE <u>61</u> , 1766 (1973)                                               |
| 4175 | High-Efficiency Secondary-Electron Emission from Sputtered $\text{MgO}$ -Au Cermets                             | V. E. Henrich<br>J. C. C. Fan                                             | Appl. Phys. Lett. <u>23</u> , 7 (1973), DDC AD-771904                            |
| 4176 | Rapid Interferometric Technique for MTF Measurements in the Visible or Infrared Region                          | D. Kelsall                                                                | Appl. Opt. <u>12</u> , 1398 (1973), DDC AD-772116                                |

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| 4178 | Comments on "The Definition of Cross Polarization"                                                                                                          | G. H. Knittel                                               | IEEE Trans. Antennas Propag. <u>AP-21</u> , 917 (1973)                          |
| 4179 | Radiation from Pulsed Electric Thrusters                                                                                                                    | K. I. Thomassen                                             | J. Spacecraft <u>10</u> , 679 (1973),<br>DDC AD-758944                          |
| 4181 | Tunable cw $\text{Pb}_{0.98}\text{Cd}_{0.02}\text{S}$ Diode Lasers Emitting at $3.5\text{ }\mu\text{m}$ : Applications to Ultrahigh-Resolution Spectroscopy | K. W. Nill<br>A. J. Strauss<br>F. A. Blum                   | Appl. Phys. Lett. <u>22</u> , 677 (1973),<br>DDC AD-771903                      |
| 4182 | High-Power, Narrow-Linewidth Operation of GaAs Diode Lasers                                                                                                 | J. A. Rossi<br>S. R. Chinn<br>H. Heckscher                  | Appl. Phys. Lett. <u>23</u> , 25 (1973),<br>DDC AD-771902                       |
| 4183 | Linear Approximations to $\sqrt{x^2+y^2}$ Having Equiripple Error Characteristics                                                                           | A. E. Filip                                                 | IEEE Trans. Audio Electroacoust. <u>AU-21</u> , 554 (1973)                      |
| 4184 | Stark Effect on Donor Transitions in High-Purity GaAs                                                                                                       | D. M. Korn<br>D. M. Larsen                                  | Solid State Commun. <u>13</u> , 807 (1973)                                      |
| 4185 | Bandwidth Enhancement in Dielectric-Lined Circular Waveguides                                                                                               | G. N. Tsandoulas                                            | IEEE Trans. Microwave Theory Tech. <u>MTT-21</u> , 651 (1973),<br>DDC AD-774001 |
| 4187 | Image Force Work Function of Dielectric Layers                                                                                                              | G. F. Dionne                                                | J. Appl. Phys. <u>44</u> , 5637 (1973)                                          |
| 4188 | The Effect of Dust on $10.6\text{-}\mu\text{m}$ Laser-Induced Air Breakdown                                                                                 | D. E. Lencioni                                              | Appl. Phys. Lett. <u>23</u> , 12 (1973),<br>DDC AD-771895                       |
| 4189 | EuO. I. Resistivity and Hall Effect in Fields up to 150 kOe                                                                                                 | Y. Shapira<br>S. Foner<br>T. B. Reed                        | Phys. Rev. B <u>8</u> , 2299 (1973)                                             |
| 4190 | EuO. II. Dependence of the Insulator-Metal Transition on Magnetic Order                                                                                     | Y. Shapira<br>S. Foner<br>R. L. Aggarwal<br>T. B. Reed      | Phys. Rev. B <u>8</u> , 2316 (1973)                                             |
| 4191 | Thermal Blooming of Pulsed Laser Radiation                                                                                                                  | H. Kleiman<br>R. W. O'Neil                                  | Appl. Phys. Lett. <u>23</u> , 43 (1973),<br>DDC AD-771894                       |
| 4192 | Variable Pulse-Length Electron Beam $\text{CO}_2$ Laser                                                                                                     | S. Marcus<br>H. Kleiman<br>R. W. O'Neil<br>L. C. Pettingill | J. Appl. Phys. <u>44</u> , 4232 (1973),<br>DDC AD-772117                        |
| 4194 | Spontaneous Spin-Flip Raman Linewidth and Nonlinear Processes in InSb                                                                                       | S. R. J. Brueck<br>A. Mooradian                             | Opt. Commun. <u>8</u> , 263 (1973),<br>DDC AD-772118                            |
| 4197 | Josephson Current in Tunneling between Coupled Semiconductors                                                                                               | A. O. E. Animalu                                            | Phys. Rev. B <u>8</u> , 4420 (1973)                                             |

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| 4198 | Beam Diagnostics for High Energy Pulsed CO <sub>2</sub> Lasers                                                                                    | R. W. O'Neil<br>H. Kleiman<br>L. C. Marquet<br>C. W. Kilcline<br>D. Northam | Accepted Appl. Opt.                                        |
| 4199 | Lateral Heterogeneity in the Deep Mantle from Seismic Body Wave Amplitudes                                                                        | R. E. Needham<br>D. Davies                                                  | Nature <u>244</u> , 152 (1973),<br>DDC AD-774002           |
| 4205 | Long-Pulse Breakdown with 10.6- $\mu$ m Laser Radiation                                                                                           | J. E. Lowder<br>H. Kleiman                                                  | J. Appl. Phys. <u>44</u> , 5504 (1973)                     |
| 4208 | Observation of Strong Non-linearities in the High Field Zeeman Spectrum of NO at 1876 cm <sup>-1</sup>                                            | H. J. Zeiger<br>F. A. Blum<br>K. W. Nill                                    | J. Chem. Phys. <u>59</u> , 3968 (1973)                     |
| 4216 | Threshold, Spectral, and Output Power Characteristics of GaAs/Ga <sub>1-x</sub> Al <sub>x</sub> As Single-Heterostructure Diode Lasers            | J. A. Rossi<br>H. Heckscher<br>S. R. Chinn                                  | Appl. Phys. Lett. <u>23</u> , 257 (1973),<br>DDC AD-772453 |
| 4217 | Time Delays in External-Cavity-Controlled GaAs/Ga <sub>x</sub> Al <sub>1-x</sub> As Single-Heterostructure Diode Lasers                           | J. A. Rossi<br>H. Heckscher<br>G. E. Stillman<br>S. R. Chinn                | Appl. Phys. Lett. <u>23</u> , 254 (1973),<br>DDC AD-772226 |
| 4218 | Phase Compensation for Thermal Blooming                                                                                                           | L. C. Bradley<br>J. Herrmann                                                | Accepted Appl. Opt.                                        |
| 4222 | Effect of Spin Rotation on the <sup>4</sup> A <sub>2</sub> → <sup>2</sup> E Optical Exciton Absorption Spectrum of Cr <sub>2</sub> O <sub>3</sub> | J. W. Allen                                                                 | Accepted Phys. Rev. B                                      |
| 4223 | Approximations for the Bound Polaron Problem                                                                                                      | D. M. Larsen                                                                | Accepted Phys. Rev. B                                      |
| 4225 | Experimental and Theoretical Charge Density of Aluminum                                                                                           | R. J. Temkin<br>V. E. Henrich<br>P. M. Raccach                              | Solid State Commun. <u>13</u> , 811 (1973)                 |
| 4226 | X-Ray Lithography: A Complementary Technique to Electron Beam Lithography                                                                         | H. I. Smith<br>D. L. Spears<br>S. E. Bernacki                               | J. Vac. Sci. Technol. <u>10</u> , 913 (1973)               |
| 4229 | Scaling Laws for High Density Plasmas                                                                                                             | C. E. Muehe                                                                 | Accepted J. Appl. Phys.                                    |
| 4231 | Methanol: A Versatile Fuel for Immediate Use                                                                                                      | T. B. Reed<br>R. M. Lerner                                                  | Science <u>182</u> , 1299 (1973)                           |
| 4233 | An Evaluation of Protocols for Monitoring Physician-Extenders                                                                                     | A. L. Komaroff<br>B. Reiffen<br>H. Sherman                                  | Resident and Staff Physician, 72 (1973)                    |

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| 4234 | The Kinetics of Long Wavelength Infrared Stimulation of Donor-Acceptor Pair Luminescence in ZnS | J. W. Allen                                                                      | Accepted Phys. Rev. B                                                                                                                                       |
| 4240 | Effect of Pb- and Te-Saturation on Carrier Concentrations in Impurity-Doped PbTe                | A. J. Strauss                                                                    | J. Electron. Mater. <u>2</u> , 553 (1973), DDC AD-772220                                                                                                    |
| 4247 | Mutual Coupling in Concave Cylindrical Arrays                                                   | G. N. Tsandoulas<br>F. G. Willwerth                                              | Microwave J. <u>16</u> , 29 (1973)                                                                                                                          |
| 4248 | Free Energy Model of High Temperature Transition in $Ti_2O_3$ and $V_2O_3$                      | H. J. Zeiger                                                                     | <u>Proceedings of the Conference on Phase Transitions and Their Applications in Materials Science</u> , L. E. Cross, Ed. (Pergamon, New York, 1973), p. 125 |
| 4252 | Gradient-Field Permanent-Magnet Spin-Flip Laser                                                 | M. A. Guerra<br>S. R. J. Brueck<br>A. Mooradian                                  | IEEE J. Quantum Electron. <u>QE-9</u> , 1157 (1973)                                                                                                         |
| 4253 | Cw Submillimeter Laser Generation in Optically Pumped Stark-Tuned $NH_3$                        | H. R. Fetterman<br>H. R. Schlossberg<br>C. D. Parker                             | Appl. Phys. Lett. <u>23</u> , 684 (1973)                                                                                                                    |
| 4254 | Applications of Phase Transitions in Materials Science                                          | J. B. Goodenough                                                                 | <u>Proceedings of the Conference on Phase Transitions and Their Applications in Materials Science</u> , L. E. Cross, Ed. (Pergamon, New York, 1973), p. 1   |
| 4255 | High Energy $CO_2$ Laser Pulse Transmission Through Fog                                         | J. E. Lowder<br>H. Kleiman<br>R. W. O'Neil                                       | Accepted Appl. Phys. Lett.                                                                                                                                  |
| 4256 | HgCdTe Varactor Photodiode Detection of cw $CO_2$ Laser Beats Beyond 60 GHz                     | D. L. Spears<br>C. Freed                                                         | Appl. Phys. Lett. <u>23</u> , 445 (1973), DDC AD-772196                                                                                                     |
| 4257 | Single Heterojunction $Pb_{1-x}Sn_x$ Te Diode Lasers                                            | J. N. Walpole<br>A. R. Calawa<br>R. W. Ralston<br>T. C. Harman<br>J. P. McVittie | Appl. Phys. Lett. <u>23</u> , 620 (1973), DDC AD-774003                                                                                                     |
| 4258 | Experimental Study of Large Effective Fresnel Number Confocal Unstable Resonators               | H. Granek<br>A. J. Morency                                                       | Accepted Appl. Opt.                                                                                                                                         |
| 4262 | A Note on Exact Discrete Fourier Transforms                                                     | C. M. Rader                                                                      | IEEE Trans. Audio Electroacoust. <u>AU-21</u> , 558 (1973)                                                                                                  |
| 4267 | Conformal Arrays Come of Age                                                                    | J. C. Sureau                                                                     | Microwave J. <u>16</u> , 23 (1973)                                                                                                                          |
| 4270 | Temperature Dependence of the Lasing Transition in High-Purity GaAs                             | S. R. Chinn<br>J. A. Rossi<br>C. M. Wolfe                                        | Appl. Phys. Lett. <u>23</u> , 699 (1973)                                                                                                                    |

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| 4271 | Photodiodes Fabricated in Epitaxial PbTe by Sb <sup>+</sup> Ion Implantation                                 | J. P. Donnelly<br>H. Holloway                                                              | Appl. Phys. Lett. <u>23</u> , 682 (1973)                      |
| 4273 | The Nonlinear Optical Coefficient, Phasematching, and Optical Damage in the Chalcopyrite AgGaSe <sub>2</sub> | H. Kildal<br>J. C. Mikkelsen                                                               | Opt. Commun. <u>9</u> , 315 (1973)                            |
| 4277 | Schottky Barrier In <sub>x</sub> Ga <sub>1-x</sub> As Alloy Avalanche Photodiodes for 1.06 μm                | G. E. Stillman<br>C. M. Wolfe<br>A. G. Foyt<br>W. T. Lindley                               | Accepted Appl. Phys. Lett.                                    |
| 4278 | Crystal Chemistry and Magnetic Properties of Cr <sup>III</sup> BiF <sub>5</sub> Compounds                    | A. Tressaud<br>J. M. Dance<br>J. Ravez<br>J. Portier<br>P. Hagenmuller<br>J. B. Goodenough | Mater. Res. Bull. <u>8</u> , 1467 (1973)                      |
| 4286 | Characteristics of IMPATT-Diode Reflection Amplifiers                                                        | R. W. Laton<br>G. I. Haddad                                                                | IEEE Trans. Microwave Theory Tech. <u>MTT-21</u> , 668 (1973) |
| 4287 | Silicon as a Residual Donor in High-Purity GaAs                                                              | C. M. Wolfe<br>D. M. Korn<br>G. E. Stillman                                                | Accepted Appl. Phys. Lett.                                    |
| 4292 | Observation of Hydrodynamic Effects on Thermal Blooming                                                      | R. W. O'Neil<br>H. Kleiman<br>J. E. Lowder                                                 | Accepted Appl. Phys. Lett.                                    |
| 4297 | Mid-Latitude Thermospheric Winds from Incoherent Scatter Radar and Theory                                    | J. E. Salah<br>J. M. Holt                                                                  | Accepted Radio Sci.                                           |
| 4303 | Submillimeter Detection and Mixing Using Schottky Diodes                                                     | H. R. Fetterman<br>B. J. Clifton<br>P. E. Tannenwald<br>C. D. Parker                       | Accepted Appl. Phys. Lett.                                    |

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| 2621 | Variations of Infrared Cyclotron Resonance and the Density of States Near the Conduction Band Edge of InSb | E. J. Johnson<br>D. H. Dickey                               | <u>Electronic Density of States</u> , L. H. Bennett, Ed. (NBS Special Publication 323, 1971), p. 423                                                                                             |
| 2628 | On the Optical Properties and the Density of States in Arsenic                                             | R. W. Brodersen<br>M. S. Dresselhaus                        | <u>Electronic Density of States</u> , L. H. Bennett, Ed. (NBS Special Publication 323, 1971), p. 39                                                                                              |
| 2630 | Optical Properties of Aluminum                                                                             | G. Dresselhaus<br>M. S. Dresselhaus<br>D. Beaglehole        | <u>Electronic Density of States</u> , L. H. Bennett, Ed. (NBS Special Publication 323, 1971), p. 33                                                                                              |
| 2631 | Localized States in Narrow Band and Amorphous Semiconductors                                               | D. Adler<br>J. Feinleib                                     | <u>Electronic Density of States</u> , L. H. Bennett, Ed. (NBS Special Publication 323, 1971), p. 493                                                                                             |
| 2727 | Theory of Antiferromagnetism and Ferrimagnetism                                                            | J. B. Goodenough                                            | Chap. 24 in <u>Physics of Electronic Ceramics</u> , Part B, L. L. Hench and D. B. Dove, Eds. (Marcel Dekker, Inc., New York, 1972), p. 777                                                       |
| 2754 | Narrow-Gap Semiconductor Lasers                                                                            | T. C. Harman                                                | <u>The Physics of Semimetals and Narrow Gap Semiconductors</u> , D. L. Carter and R. T. Bate, Eds. (Pergamon, New York, 1971), p. 363 [J. Phys. Chem. Solids 32, Suppl. 1 (1971)], DDC AD-737942 |
| 2756 | Shubnikov-de Haas Measurements in $Pb_{1-x}Sn_xTe$ Under Hydrostatic Pressure                              | J. Melngailis<br>J. A. Kafalas<br>T. C. Harman              | <u>The Physics of Semimetals and Narrow Gap Semiconductors</u> , D. L. Carter and R. T. Bate, Eds. (Pergamon, New York, 1971), p. 407 [J. Phys. Chem. Solids 32, Suppl. 1 (1971)], DDC AD-737968 |
| 2757 | Metal-Semiconductor Contacts on $Pb_{1-x}Sn_xTe$                                                           | K. W. Nill<br>J. N. Walpole<br>A. R. Calawa<br>T. C. Harman | <u>The Physics of Semimetals and Narrow Gap Semiconductors</u> , D. L. Carter and R. T. Bate, Eds. (Pergamon, New York, 1971), p. 383 [J. Phys. Chem. Solids 32, Suppl. 1 (1971)], DDC AD-738053 |
| 2763 | Recent Experiments on Zero Gap Semiconductors                                                              | S. H. Groves                                                | <u>The Physics of Semimetals and Narrow Gap Semiconductors</u> , D. L. Carter and R. T. Bate, Eds. (Pergamon, New York, 1971), p. 447 [J. Phys. Chem. Solids 32, Suppl. 1 (1971)], DDC AD-737943 |

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| 2765 | Electronic Properties of the Group V Semimetals                                                        | M. S. Dresselhaus                                           | <u>The Physics of Semimetals and Narrow Gap Semiconductors</u> , D. L. Carter and R. T. Bate, Eds (Pergamon, New York, 1971), p. 3 [J. Phys. Chem. Solids <b>32</b> , Suppl. 1 (1971)]                   |
| 2770 | k · p Theory for the Conduction and Valence Bands of $Pb_{1-x}Sn_xTe$ and $Pb_{1-x}Sn_xSe$ Alloys      | J. O. Dimmock                                               | <u>The Physics of Semimetals and Narrow Gap Semiconductors</u> , D. L. Carter and R. T. Bate, Eds. (Pergamon, New York, 1971), p. 349 [J. Phys. Chem. Solids <b>32</b> , Suppl. 1 (1971)], DDC AD-737947 |
| 2780 | Raman Scattering from $Hg_{1-x}Cd_xTe$                                                                 | A. Mooradian<br>T. C. Harman                                | <u>The Physics of Semimetals and Narrow Gap Semiconductors</u> , D. L. Carter and R. T. Bate, Eds. (Pergamon, New York, 1971), p. 297 [J. Phys. Chem. Solids <b>32</b> , Suppl. 1 (1971)], DDC AD-737949 |
| 2845 | High-Resolution Magneto-spectroscopy of Graphite                                                       | P. R. Schroeder<br>M. S. Dresselhaus<br>A. Javan            | <u>The Physics of Semimetals and Narrow Gap Semiconductors</u> , D. L. Carter and R. T. Bate, Eds. (Pergamon, New York, 1971), p. 439 [J. Phys. Chem. Solids <b>32</b> , Suppl. 1 (1971)]                |
| 2863 | Effects of Hydrostatic Pressure and of Jahn-Teller Distortions on the Magnetic Properties of $RbFeF_3$ | J. B. Goodenough<br>N. Menyuk<br>K. Dwight<br>J. A. Kafalas | J. Phys. <b>32</b> Suppl., C1, 622 (1971), DDC AD-731929                                                                                                                                                 |
| 2906 | Growth of Oxide Crystals                                                                               | T. B. Reed                                                  | <u>Ferrites: Proceedings of the International Conference, July 1970, Japan</u> , Y. I'oshino, S. Iida and M. Sugimoto, Eds. (University of Tokyo Press, Tokyo, 1971), p. 289                             |
| 2964 | Magneto-Optical Properties of the Eu-Chalcogenides                                                     | J. O. Dimmock                                               | <u>The Physics of Opto-Electronic Materials</u> , W. A. Albers, Jr., Ed. (Plenum, New York, 1971), pp. 255-271, DDC AD-737950                                                                            |
| 2977 | Exhaust Velocity Studies of a Solid Teflon Pulsed Plasma Thruster                                      | K. I. Thomassen<br>R. J. Vondra                             | Proc. AIAA 9th Aerospace Sciences Mtg., New York, Jan. 1974; J. Spacecraft <b>9</b> , 61 (1972), DDC AD-744408                                                                                           |

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| 2993  | Application of Heat Pipe Technology to Crystal Growth                                                      | J. Steininger<br>T. B. Reed                                                                                      | <u>J. Crystal Growth</u> <b>13/14</b> , 106 (1972), DDC AD-752983                                                                                                                                                                     |
| 3012  | Feasibility Model of a $10^7$ Bit Magnetic-Film Memory                                                     | J. I. Raffel<br>A. H. Anderson<br>R. Berger<br>T. S. Crowther<br>T. O. Herndon<br>M. L. Naiman<br>C. E. Woodward | <u>IEEE Trans. Magnetics</u> <b>MAG-7</b> , 487 (1971), DDC AD-737928                                                                                                                                                                 |
| 3018A | Phase Diagrams and Crystal Growth of Pseudobinary Alloy Semiconductors                                     | J. Steininger<br>A. J. Strauss                                                                                   | <u>J. Crystal Growth</u> <b>13/14</b> , 657 (1972), DDC AD-752984                                                                                                                                                                     |
| 3033  | Lithium Ferrite for Microwave Devices                                                                      | P. D. Baba<br>G. M. Argentina<br>W. E. Courtney<br>G. F. Dionne<br>D. H. Temme                                   | <u>IEEE Trans. Magnetics</u> <b>MAG-7</b> , 351 (1971)                                                                                                                                                                                |
| 3067  | Polaron Morphologies in Vanadium Oxides                                                                    | J. B. Goodenough                                                                                                 | <u>Conduction in Low-Mobility Materials</u> , N. Klein, D. S. Tannhauser and M. Pollak, Eds. (Taylor & Francis Ltd., London, 1971), p. 87, DDC AD-742586                                                                              |
| 3075A | Brillouin Spectroscopy in Cadmium Sulfide: Acoustoelectric and Anharmonic Effects and Resonance Scattering | A. S. Pine                                                                                                       | <u>Proceedings of the Second International Conference on Light Scattering in Solids, Paris, 19-23 July 1971</u> , M. Balkanski, Ed. (Flammarion Sciences, Paris, 1971), p. 467                                                        |
| 3076  | Raman Scattering in Tellurium                                                                              | A. S. Pine<br>G. Dresselhaus                                                                                     | <u>Proceedings of the Second International Conference on Light Scattering in Solids, Paris, 19-23 July 1971</u> , M. Balkanski, Ed. (Flammarion Sciences, Paris, 1971), p. 267                                                        |
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| 3129 | Molecular and Lattice Vibrations in Solid Ammonia                                              | A. S. Pine<br>C. J. Glassbrenner<br>G. Dresselhaus            | <u>Proceedings of the International Conference on Phonons, Rennes, France, 26-28 July 1971</u> (Flammarion Sciences, Paris, 1971), p. 258                                                                |
| 3141 | Metallurgical and Electronic Properties of CdTe Related to Preparation of Single Crystals      | A. J. Strauss                                                 | <u>Proceedings of the International Symposium on Cadmium Telluride</u> , Strasbourg, France, 29-30 June 1971, P. Siffert and A. Cornet, Eds. (Centre de Recherches Nucléaires, Strasbourg, 1971), p. I-1 |
| 3142 | Remote Heterodyne Detection of Gaseous Pollutants with Tunable Lasers                          | E. D. Hinkley<br>R. H. Kingston                               | Proc. AIAA Joint Conf. on Sensing of Environmental Pollutants, Palo Alto, California, Nov. 1971                                                                                                          |
| 3143 | An Assessment of Microsound Technology for Signal Processing                                   | E. Stern                                                      | <u>Proceedings 1970 Ultrasonics Symposium</u> , San Francisco, Oct. 1970 (IEEE, New York, 1971)                                                                                                          |
| 3144 | Materials and Processing Techniques for the Fabrication of High Quality Millimeter Wave Diodes | B. J. Clifton<br>W. T. Lindley<br>R. W. Chick<br>R. A. Cohen  | Proc. Third Biennial Cornell Electrical Engineering Conf., Cornell University, Ithaca, Aug. 1971, p. 463                                                                                                 |
| 3146 | Infrared Detectors and Applications                                                            | J. O. Dimmock                                                 | J. Electronic Materials <b>1</b> , 255 (1972)                                                                                                                                                            |
| 3152 | Acoustic and Optical Activity in Crystals                                                      | A. S. Pine<br>G. Dresselhaus                                  | In <u>Atomic Structure and Properties of Solids</u> (Academic Press, New York, 1972), pp. 325-344                                                                                                        |
| 3153 | Preparation and Properties of $\text{Pb}_{1-x}\text{Cd}_x\text{S}$                             | A. R. Calawa<br>J. A. Mroczkowski<br>T. C. Harman             | J. Electron. Mater., No. <b>1</b> , 191 (1972)                                                                                                                                                           |
| 3167 | Polaron Energy Levels in Magnetic and Coulomb Fields                                           | D. M. Larsen                                                  | In <u>Polarons in Ionic Crystals and Polar Semiconductors</u> , J. T. Devreese, Ed. (North-Holland, Amsterdam, 1972), pp. 237-287, DDC AD-763581                                                         |
| 3175 | Valence Bond Approach to Magnetic Semiconductors                                               | J. B. Goodenough                                              | Chapter in <u>New Developments in Semiconductors</u> , P. R. Wallace, R. Harris and M. J. Zuckermann, Eds. (Noordhoff International Publishing, Leyden, 1973), pp. 107-174, DDC AD-763582                |

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| 3181  | Improvement in Seismic Discrimination Capability Using LASA                                 | J. Capon                                               | NEREM <u>13</u> , Pt. 1, 245 (1971),<br>DDC AD-738711                                                                                                                                                        |
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| 3185  | Educational Technology                                                                      | F. C. Frick                                            | NEREM <u>13</u> , Pt. 1, 238 (1971),                                                                                                                                                                         |
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| 3187  | Electronic Raman Scattering in FeF <sub>2</sub>                                             | S. R. Chinn<br>H. J. Zeiger                            | AIP Conference Proceedings No. 5, <u>Magnetism and Magnetic Materials 1971</u> , C. D. Graham, Jr. and J. J. Rhyne, Eds. (American Institute of Physics, New York, 1972), Sec. 8, pp. 344-348, DDC AD-744896 |
| 3192  | Tunable Infrared Lasers and Their Applications                                              | P. L. Kelley<br>E. D. Hinkley<br>A. Mooradian          | NEREM <u>13</u> , Pt. 1, 221 (1971),<br>DDC AD-738713                                                                                                                                                        |
| 3193  | Lincoln Terminal System for Technical Education                                             | W. P. Harris                                           | NEREM <u>13</u> , Pt. 1, 241 (1971)                                                                                                                                                                          |
| 3196  | Performance Improvements in Solid Fuel Microthrusters                                       | R. J. Vondra<br>K. I. Thomassen                        | Proc. AIAA 10th Aerospace Sciences Mtg., San Diego, Jan. 1972, DDC AD-737930                                                                                                                                 |
| 3203  | A Tunable Semiconductor Laser for Pollution Studies                                         | F. L. McNamara                                         | Opt. Eng. <u>11</u> , 9 (1972)                                                                                                                                                                               |
| 3210  | On Optimum Nonrecursive Digital Filters                                                     | E. M. Hofstetter<br>A. V. Oppenheim<br>J. Siegel       | Proc. 9th Allerton Conf., Monticello, Illinois, 7 Oct. 1971, DDC AD-740019                                                                                                                                   |
| 3213  | Performance Study of a Solid Fuel-Pulsed Electric Microthruster                             | A. Solbes<br>R. J. Vondra                              | Proc. AIAA 9th Electric Propulsion Conf., Bethesda, Maryland, Apr. 1972, DDC AD-742587; J. Spacecraft <u>10</u> , 406 (1973)                                                                                 |
| 3222A | Magneto-Optical Transitions and Fermi Surface in Arsenic                                    | R. W. Brodersen<br>G. Dresselhaus<br>M. S. Dresselhaus | <u>Proceedings of the 11th Conference on the Physics of Semiconductors</u> , Vol. 1 (Polish Scientific Publishers, Warsaw, 1972), p. 341                                                                     |

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| 3231  | Elastic Constants, Compressibilities and Debye Temperatures of the Eu-Chalcogenides                                                                        | Y. Shapira<br>T. B. Reed                                        | AIP Conference Proceedings No. 5, <u>Magnetism and Magnetic Materials</u> 1971, C. D. Graham, Jr. and J. J. Rhyne, Eds. (American Institute of Physics, New York, 1972), Sec. 20, p. 837 |
| 3245  | X-Ray Replication of Scanning Electron Microscope Generated Patterns                                                                                       | D. L. Spears<br>H. I. Smith<br>E. Stern                         | <u>Electron and Ion Beam Science and Technology</u> (Fifth International Conference), R. Bakish, Ed. (The Electrochemical Society, Inc., Princeton, New Jersey, 1972), p. 80             |
| 3254  | Free-Carrier Absorption in n-Type PbTe                                                                                                                     | A. J. Strauss                                                   | J. Nonmetals 1, 133 (1973), DDC AD-772149                                                                                                                                                |
| 3282  | Interferometric Density Measurements in the Arc of a Pulsed Plasma Thruster                                                                                | K. I. Thomassen<br>D. Tong                                      | Proc. AIAA 9th Electric Propulsion Conf., Bethesda, Maryland, Apr. 1972, DDC AD-744384                                                                                                   |
| 3296  | PbS <sub>1-x</sub> Se <sub>x</sub> Tunable Lasers for High-Resolution Infrared Spectroscopy                                                                | K. W. Nill<br>F. A. Blum<br>A. R. Calawa<br>T. C. Harman        | J. Nonmetals 1, 211 (1973), DDC AD-773994                                                                                                                                                |
| 3302A | Broad-Band Laser Emission from Optically Pumped PbS <sub>1-x</sub> Se <sub>x</sub>                                                                         | A. Mooradian<br>A. J. Strauss<br>J. A. Rossi                    | IEEE J. Quantum Electron. <u>QE-9</u> , 347 (1973), DDC AD-759091                                                                                                                        |
| 3307  | PbTe Photodiodes Fabricated by Sb <sup>+</sup> Ion Implantation                                                                                            | J. P. Donnelly<br>T. C. Harman<br>A. G. Foyt<br>W. T. Lindley   | J. Nonmetals 1, 123 (1973), DDC AD-771892                                                                                                                                                |
| 3310  | A Design for INSAT                                                                                                                                         | P. P. Kale<br>R. L. Nickelson<br>F. W. Sarles, Jr.              | Proc. AIAA 4th Communications Satellite Systems Conf., Washington, D.C., Apr. 1972                                                                                                       |
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| 3315  | Temperature and Stress Sensitivities of Microwave Ferrites                                                                                                 | G. F. Dionne                                                    | IEEE Trans. Magnetics <u>MAG-8</u> , 439 (1972), DDC AD-763580                                                                                                                           |
| 3322  | Control of Imperfections in Crystals of Pb <sub>1-x</sub> Sn <sub>x</sub> Te, Pb <sub>1-x</sub> Sn <sub>x</sub> Se, and PbS <sub>1-x</sub> Se <sub>x</sub> | T. C. Harman                                                    | J. Nonmetals 1, 183 (1973), DDC AD-773997                                                                                                                                                |
| 3338  | Stripe-Geometry Pb <sub>1-x</sub> Sn <sub>x</sub> Te Diode Lasers                                                                                          | R. W. Ralston<br>I. Melngailis<br>A. R. Calawa<br>W. T. Lindley | IEEE J. Quantum Electron. <u>QE-9</u> , 350 (1973), DDC AD-759093                                                                                                                        |

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| 3344  | Photothermal Ionization of Shallow Donors in GaAs                                  | G. E. Stillman<br>C. M. Wolfe<br>D. M. Korn                                                                     | <u>Proceedings of the 11th International Conference on the Physics of Semiconductors</u> , Vol. 2 (Polish Scientific Publishers, Warsaw, 1972), p. 863                                                            |
| 3349A | Detection of Air Pollutants with Tunable Lasers                                    | E. D. Hinkley                                                                                                   | <u>Proceedings of the First European Electro-Optics Markets and Technology Conference</u> , Geneva, Switzerland, Sept. 1972 (IPC Science and Technology Press, Ltd., Guildford, Surrey, England, 1973), pp. 24-33 |
| 3350  | Small Bandgap Lasers and Their Uses in Spectroscopy                                | A. R. Calawa                                                                                                    | J. Luminescence <u>7</u> , 477 (1973), DDC AD-772213                                                                                                                                                              |
| 3351  | Small Bandgap Semiconductor Infrared Detectors                                     | I. Melngailis                                                                                                   | J. Luminescence <u>7</u> , 501 (1973), DDC AD-771876                                                                                                                                                              |
| 3353  | Dependence of Growth Temperature on Carrier Gas Velocity in Open Tube Transport    | T. B. Reed<br>W. J. LaFleur                                                                                     | J. Crystal Growth <u>17</u> , 123 (1972), DDC AD-758929                                                                                                                                                           |
| 3365  | The Use of Computers in Ambulatory Care: Lessons from 3000 Encounters              | B. Reiffen<br>H. Sherman                                                                                        | Comput. Biol. Med. <u>3</u> , 101 (1973)                                                                                                                                                                          |
| 3367  | Pseudobinary Phase Diagram and Existence Regions for $\text{PbS}_{1-x}\text{Se}_x$ | A. J. Strauss<br>T. C. Harman                                                                                   | J. Electron. Mater. <u>2</u> , 71 (1973), DDC AD-764989                                                                                                                                                           |
| 3369A | Proton-Guarded GaAs IMPATT Diodes                                                  | R. A. Murphy<br>W. T. Lindley<br>D. F. Peterson<br>A. G. Foyt<br>C. M. Wolfe<br>C. E. Hurwitz<br>J. P. Donnelly | <u>Gallium Arsenide and Related Compounds</u> (The Institute of Physics, London, 1973), pp. 224-230, DDC AD-771891                                                                                                |
| 3373  | The Structure of $\text{La}_2\text{CuO}_4$ and $\text{LaSrVO}_4$                   | J. M. Longo<br>P. M. Raccach                                                                                    | J. Solid State Chem. <u>6</u> , 526 (1973), DDC AD-763151                                                                                                                                                         |
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| 3392  | Schottky Barrier GaAs EBS Amplifier                                                                                                                   | W. T. Lindley<br>W. E. Krag<br>C. M. Wolfe<br>R. J. Sasiela<br>R. A. Murphy<br>C. E. Hurwitz<br>D. F. Kostishack<br>A. J. Yakutis<br>A. G. Foyt | <u>Gallium Arsenide and Related Compounds</u> (The Institute of Physics, London, 1973), pp. 295-300, DDC AD-771890                                                                       |
| 3394  | ELF Communication System Design                                                                                                                       | M. L. Burrows<br>C. W. Niessen                                                                                                                  | Ocean '72, pp. 95-109 (1972), DDC AD-752956                                                                                                                                              |
| 3395  | Design of an ELF Noise Processor                                                                                                                      | J. E. Evans<br>A. S. Griffiths                                                                                                                  | Ocean '72, pp. 151-165 (1972), DDC AD-752957                                                                                                                                             |
| 3399  | Satellite Crosslink K <sub>a</sub> -Band Antenna                                                                                                      | A. R. Dion                                                                                                                                      | NEREM Record (1972), DDC AD-758933                                                                                                                                                       |
| 3410  | Bandpass Surface Wave Filters                                                                                                                         | J. Melngailis<br>J. M. Smith<br>J. H. Cafarella                                                                                                 | Proc. Ultrasonic Symp., Boston, Oct. 1972, DDC AD-758932                                                                                                                                 |
| 3411  | Analysis of Surface Wave Reflection from a Periodic Array of Grooves                                                                                  | R. C. M. Li                                                                                                                                     | Proc. Ultrasonic Symp., Boston, Oct. 1972, DDC AD-758931                                                                                                                                 |
| 3413  | Ion Beam Etching of Reflective Array Filters                                                                                                          | H. I. Smith<br>R. C. Williamson<br>W. T. Brogan                                                                                                 | Proc. Ultrasonic Symp., Boston, Oct. 1972, DDC AD-758934                                                                                                                                 |
| 3413A | Ion Beam Etching of Surface Gratings                                                                                                                  | H. I. Smith<br>J. Melngailis<br>R. C. Williamson<br>W. T. Brogan                                                                                | J. Vac. Sci. Technol. <u>10</u> , 1127 (1973)                                                                                                                                            |
| 3414  | Measurement of the Propagation Characteristics of Surface and Bulk Waves in LiNbO <sub>3</sub>                                                        | R. C. Williamson                                                                                                                                | Proc. Ultrasonic Symp., Boston, Oct. 1972, DDC AD-758935                                                                                                                                 |
| 3421  | Pressure Variation of the Curie Temperature and Spontaneous Magnetization in Fe <sub>2</sub> P and Fe <sub>2</sub> P <sub>0.9</sub> As <sub>0.1</sub> | J. B. Goodenough<br>J. A. Kafalas<br>K. Dwight<br>N. Menyuk<br>A. Catalano                                                                      | <u>AIP Conference Proceedings No. 10, Magnetism and Magnetic Materials-1972</u> , C. D. Graham, Jr. and J. J. Rhyne, Eds. (American Institute of Physics, New York, 1973), DDC AD-764988 |
| 3423  | Radiation from Pulsed Electric Thrusters                                                                                                              | K. I. Thomassen                                                                                                                                 | Proc. AIAA 11th Aerospace Sciences Mtg., Washington, D. C., Jan. 1973, DDC AD-758944                                                                                                     |
| 3424  | Interpretation of Rare Earth Ion Effects on Spin Wave Linewidths of Iron Garnets                                                                      | G. F. Dionne<br>R. G. West                                                                                                                      | <u>AIP Conference Proceedings No. 10, Magnetism and Magnetic Materials-1972</u> , C. D. Graham, Jr. and J. J. Rhyne, Eds. (American Institute of Physics, New York, 1973), DDC AD-771875 |
| 3436  | Surface Mobility on Silicon from Acoustoelectric Current Measurements                                                                                 | J. H. Cafarella<br>A. Bers                                                                                                                      | Proc. Ultrasonic Symp., Boston, Oct. 1972, DDC AD-758936                                                                                                                                 |

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| 3454 | Structural Studies in the System KF-YF <sub>3</sub>                                               | J. W. Pierce<br>H. Y-P. Hong               | <u>Proceedings of the Tenth Rare Earth Research Conference</u> , Vol. 1, C. J. Kevane and T. Moeller, Eds. (United States Atomic Energy Commission CONF-730402-P1, 1973) |
| 3460 | On the Structural Identification and Parameter Estimation in Linear Multivariable Dynamic Systems | J. C. Chow                                 | Proc. Joint Automatic Control Conf., Ohio State University, Columbus, June 1973                                                                                          |
| 3462 | Programmable Switch-er-oo Chain                                                                   | R. H. Baker<br>R. E. McMahon               | 1973 IEEE Intl. Solid State Circuits Conf. Digest of Technical Papers, Vol. XVI, Philadelphia, Feb. 1973                                                                 |
| 3508 | The Lincoln Terminal System (LTS)                                                                 | F. C. Frick                                | J. Educ. Technol. Syst. <u>2</u> , 87 (1973)                                                                                                                             |
| 3568 | Canonical Forms for Systems with Time Delay                                                       | J. C. Chow                                 | Proc. 1973 IEEE Conf. on Decision and Control, San Diego, 5-7 Dec. 1973                                                                                                  |
| 3573 | A Flight Qualified Pulsed Electric Thruster for Satellite Control                                 | R. J. Vondra<br>K. I. Thomassen            | Proc. AIAA 10th Electric Propulsion Conf., Lake Tahoe, Nevada, Oct.-Nov. 1973, DDC AD-772133                                                                             |
| 3636 | Recent Advances in Air Traffic Control Radars                                                     | C. E. Muehe                                | NEREM Record <u>15</u> , Part 1, 96 (1973)                                                                                                                               |
| 3637 | Neodymium YAG/YALO Lasers                                                                         | P. F. Moulton                              | NEREM Record <u>15</u> , Part 3, 11 (1973)                                                                                                                               |
| 3638 | The Discrete Address Beacon System (DABS)                                                         | H. G. Weiss<br>P. R. Drouilhet             | NEREM Record <u>15</u> , Part 4, 208 (1973)                                                                                                                              |
| 3651 | K <sub>A</sub> -Band IMPATT Diode Reliability                                                     | P. Staecker                                | <u>1973 IEDM Technical Digest</u> (IEEE, New York, 1973), p. 493                                                                                                         |
| 3659 | Identification of Multivariable Time Delay Systems                                                | J. C. Chow                                 | Proc. 1973 International Conf. on Cybernetics and Society, Boston, 5-7 Nov. 1973                                                                                         |
| 3670 | An Optimum Surveillance Radar for ATC                                                             | H. G. Weiss                                | EASCON'73 Record, p. 206                                                                                                                                                 |

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