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VOLUME 3

15 September 1971

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FOREWORD

Volume 3 of Unclassified Publications of Lincoln Laboratory lists reports published from 15 September 1969 to 15 September 1971, as well as updated information on earlier publications.

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Accepted for the Air Force
Joseph R. Waterman, Lt. Col., USAF
Chief, Lincoln Laboratory Project Office

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171	Simulation of Self-Organizing Systems by Digital Computer	B. G. Farley W. A. Clark	Trans. IRE, PGIT IT-4, 76 (1954)
2114	Radar	J. Freedman	Chap. 14 in System Engineering Handbook, R. E. Machal, editor (McGraw-Hill, New York, 1965)
2196	A Conservation Law for a Wide Class of Queueing Disciplines	L. Kleinrock	Naval Res. Log. Quart. 12, 181 (1965), DDC AD-631082
2263	Quantum Oscillations of the Ultrasonic Absorption in Lead Telluride	Y. Shapira B. Lax	Physics Letters 7, 133 (1963)
2289	Transition Correlations for Hypersonic Wakes	S. L. Zeiberg	AIAA J. 2, 564 (1964)
2340-1	Radar Measurements of Target Scattering Properties	P. E. Green, Jr.	Chap. 1 in Radar Astronomy (McGraw-Hill, New York, 1968)
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2425	On the Schwartz Inequality	M. J. Levin	Proc. IEEE (Correspondence) 53, 107 (1965), DDC AD-615350

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2482	X-Band Modulation of GaAs Lasers	B. S. Goldstein R. M. Weigand	Proc. IEEE (Correspondence) 53, 195 (1965), DDC AD-614870
2548B	Concluding Remarks on Ionospheric F-Region Temperatures	J. V. Evans	Electron Density Profiles in Ionosphere and Exosphere (North-Holland, Amsterdam, 1966), DDC AD-640996
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2591	Properties of InAs Lasers	I. Melngailis R. H. Rediker	J. Appl. Phys. 37, 899 (1966), DDC AD-642173
2736	The Augmented Plane Wave Method and the Electronic Properties of Rare-Earth Metals	A. J. Freeman J. O. Dimmock R. E. Watson	Quantum Theory of Atoms, Molecules, and the Solid State (Academic Press, New York, 1966)
2872	First-Order Localized Electron ⇄ Collective-Electron Transition in $LaCoO_3$	P. M. Raccah J. B. Goodenough	Phys. Rev. 155, 932 (1967), DDC AD-658906
2908A	Lincoln Experimental Satellite Program (LES-1, -2, -3, -4)	H. Sherman D. C. MacLellan R. M. Lerner P. Waldron	J. Spacecraft 4, 1448 (1967), DDC AD-663685
2916	Heat Flow in High-Temperature Crystal Growth	T. B. Reed	Crystal Growth (Pergamon, New York, 1967)
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2937	Sulfur Donor Level Associated with (100) Conduction Band of GaSb	B. B. Kosicki W. Paul A. J. Strauss G. W. Iseler	Phys. Rev. Letters 17, 1175 (1966)
2941	Retrograde Solubility of Lead in n-Type PbS	A. J. Strauss	Trans. Met. Soc. AIME 239, 794 (1967), DDC AD-661148
2949	The Overdriven Varactor Upper Sideband Upconverter	A. I. Grayzel	IEEE Trans. Microwave Theory Tech. MTT-15, 561 (1967)
2965	Identification of the Fundamental Vibrational Modes of Trigonal, α-Monoclinic and Amorphous Selenium	G. Lucovsky A. Mooradian W. Taylor G. B. Wright R. C. Keezer	Solid State Commun. 5, 113 (1967), DDC AD-698574

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2977	Interband Magnetoreflection and Band Structure of HgTe	S. H. Groves R. N. Brown C. R. Pidgeon	Phys. Rev. 161, 779 (1967), DDC AD-663308
2989	A Thermodynamic Investigation of the Compounds In_3SbTe_2, InSb, and InTe	A. K. Jena M. B. Bever M. D. Banus	Trans. Met. Soc. AIME 239, 1232 (1967), DDC AD-701240
3000	Phasers and Time Delay Elements	W. J. Ince D. H. Temme	Advances in Microwaves, Vol. 4, L. Young, editor (Academic Press, New York, 1969)
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3010	What is the Fast Fourier Transform?	C. M. Rader, et al.	IEEE Trans. Audio Electroacoust. AU-15, 45 (1967); Proc. IEEE 55, 1664 (1967)
3012	A General Model of a Single-Channel Queue: Discrete and Continuous Time Cases	J. U. Beusch	Operations Res. 15, 1131 (1967)
3013	Iterative Sequential Decoding	I. G. Stiglitz	IEEE Trans. Inform. Theory IT-15, 715 (1969), DDC AD-703488
3076	Spark-Source Mass Spectrometry	E. B. Owens	McGraw-Hill Yearbook of Science and Technology (1968)
3083	Changes in the Work Function of Aluminum During and Following Low Pressure Oxidation at Room Temperature	E. E. Huber, Jr. C. T. Kirk, Jr.	Surface Sci. 8, 458 (1967), DDC AD-698576
3094	Beam Steering Increments for a Phased Array	J. Frank J. Ruze	IEEE Trans. Antennas Propag. AP-15, 820 (1967)
3101	The Combined Use of Digital Computers and Coherent Optics in Image Processing	T. S. Huang H. L. Kasnitz	Proc. Computerized Imaging Techniques Seminar, Washington, D. C., June 1967
3154	Magnetic Ordering and the Electronic Properties of the Heavy Rare-Earth Metals	R. E. Watson A. J. Freeman J. O. Dimmock	Phys. Rev. 167, 497 (1968), DDC AD-697226
3157	Mutual Coupling in Infinite Planar Arrays of Rectangular Waveguide Horns	G. F. Farrell D. H. Kuhn	IEEE Trans. Antennas Propag. AP-16, 405 (1968)
3158	Automatic Satellite Station-Keeping	A. A. Braga-Illa	J. Spacecraft 6, 430 (1969), DDC AD-696238
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3174	Quartz Laser Operates Via Stimulated Raman Scattering	P. E. Tannenwald F. H. Perry	Laser Focus 3, 23 (1967)
3182	Microseisms: Mode Structure and Sources	M. N. Toksöz R. T. Lacoss	Science 159, 872 (1968), DDC AD-698577
3183	Radar Astronomy	G. H. Pettengill	Chap. 33 in Radar Handbook (McGraw-Hill, New York, 1970)
3193	Long-Period Signal Processing Results for the Large Aperture Seismic Array	J. Capon R. J. Greenfield R. T. Lacoss	Geophysics 34, 305 (1969), DDC AD-694326
3194	Ferromagnetic Properties of Films	M. S. Cohen	Chap. 17 in Handbook of Thin Film Technology (McGraw-Hill, New York, 1970)
3204	Radar Studies of the Moon	J. V. Evans T. Hagfors	Advances in Astronomy and Astrophysics, Vol. 8 (Academic Press, New York, 1971), pp. 29-105
3205	Orbit Determination from the Satellite	A. A. Braga-Illa	J. Spacecraft 6, 232 (1969), DDC AD-699266
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3233	The Feasibility of Locating Waveguide Arcs by Sound Ranging	A. Browne	IEEE Trans. Microwave Theory Tech. MTT-16, 894 (1968), DDC AD-698578
3238	Magnetic Devices	J. I. Raffel	Chap. 21 in Handbook of Thin Film Technology (McGraw-Hill, New York, 1970)
3242	Nonlinear Filtering of Multiplied and Convolved Signals	A. V. Oppenheim R. W. Schafer T. G. Stockham, Jr.	Proc. IEEE 56, 1264 (1968), DDC AD-680159
3252	A Gradient Method for Systems with Time Delays and Its Application to Waveform Design	R. J. McAulay	IEEE Trans. Automatic Control AC-14, 230 (1969), DDC AD-696873
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3281	Crystallographic and Magnetic Properties of Perovskite and Perovskite-Related Compounds	J. B. Goodenough J. M. Longo	Landolt-Bornstein Tables, Group III, Part A (Springer-Verlag, Berlin, 1970), p. 126
3282A	Signal Processing by the Bat Myotis lucifugus	J. J. G. McCue	J. Auditory Res. 9, 100 (1969), DDC AD-704619
3285	Excitation of a Grounded Dielectric Slab by a Horizontal Dipole	G. N. Tsandoulas	IEEE Trans. Antennas Propag. AP-17, 156 (1969), DDC AD-693898
3289	Determination of Magnetic Anisotropy and Porosity from the Approach to Saturation of Polycrystalline Ferrites	G. F. Dionne	J. Appl. Phys. 40, 1839 (1969), DDC AD-694193
3295	Low-Level Coherent and Incoherent Detection in the Infrared	R. J. Keyes T. M. Quist	Chap. 8 in Semiconductors and Semimetals, Vol. 5 (Academic Press, New York, 1970), p. 321
3298	Space-Filling Curves: Their Generation and Their Application to Bandwidth Reduction	T. Bially	IEEE Trans. Inform. Theory IT-15, 658 (1969), DDC AD-703413
3301	Effective-Mass Theory for Polarons in External Fields	D. M. Larsen	Phys. Rev. 180, 919 (1969), DDC AD-694896
3320	Single Crystal Lead-Tin Chalcogenides	I. Melngailis T. C. Harman	Chap. 4 in Semiconductors and Semimetals, Vol. 5 (Academic Press, New York, 1970), p. 111
3325	Radar Measurements of Martian Topography	G. H. Pettengill C. C. Counselman L. P. Rainville I. I. Shapiro	Astron. J. 74, 461 (1969), DDC AD-694908
3342	X-Band Gas-Tube Pulsed Attenuator for Maser Protection	C. E. Muehe A. A. L. Browne	IEEE Trans. Electron Devices ED-17, 1040 (1970), DDC AD-722927
3351	Magnetic-Anisotropy and Magnetostriction Constants of Substituted Lithium Ferrites at 300°K	G. F. Dionne	J. Appl. Phys. 40, 4486 (1969), DDC AD-703756
3358	Boltzmann-Equation Study of Hot-Electron Relaxation in Metals	R. W. Davies	Phys. Rev. 181, 1118 (1969), DDC AD-692904
3359	Performance of Cadmium Sulfide Thin Film Solar Cells in a Space Environment	A. G. Stanley	Proc. IEEE 57, 692 (1969), DDC AD-694893

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3362	Theory and Practice of Ionosphere Study by Thomson Scatter Radar	J. V. Evans	Proc. IEEE 57, 496 (1969), DDC AD-694192
3367	Tropical Air Density Below 80 km from Hypersonic Sphere Measurements	J. E. Salah	J. Appl. Meteorol. 8, 711 (1969), DDC AD-699262
3368	Hypersonic Sphere Drag from Radar Measurements	J. E. Salah	AIAA J. 7, 1361 (1969), DDC AD-699460
3369	Inversion-Asymmetry and Warping-Induced Interband Magneto-Optical Transitions in InSb	C. R. Pidgeon S. H. Groves	Phys. Rev. 186, 824 (1969), DDC AD-707249
3376	A Radio Study of the H II Region Orion B	M. A. Gordon	Astrophys. J. 158, 479 (1969), DDC AD-699263
3378	Radar Studies of Planetary Surfaces	J. V. Evans	Ann. Rev. Astron. Astrophys. 7, 201 (1969)
3380	Partial Pressures of Zn and Te_2 over ZnTe up to 917 °C	R. F. Brebrick	J. Electrochem. Soc. 116, 1274 (1969), DDC AD-696239
3383	Comparison of the Independent Grain and Dipole Narrowing Theories of Ferrimagnetic Resonance Linewidth	G. F. Dionne	J. Appl. Phys. 40, 3061 (1969), DDC AD-695753
3386	Transient and Steady State Thermal Self-Focusing	R. L. Carman A. Mooradian P. L. Kelley A. Tufts	Appl. Phys. Letters 14, 136 (1969), DDC AD-714469
3388	A Bound on the Output of a Circular Convolution with Application to Digital Filtering	A. V. Oppenheim C. Weinstein	IEEE Trans. Audio Electroacoust. AU-17, 120 (1969), DDC AD-696240
3389	Gain Saturation and Diffusion in CO_2 Lasers	C. P. Christensen C. Freed H. A. Haus	IEEE J. Quantum Electron. QE-5, 276 (1969), DDC AD-693669
3391	High Power Varactor Package for Multichip Application	D. D. Tang	Proc. IEEE (Letters) 57, 799 (1969), DDC AD-693895
3392	High-Resolution Frequency-Wavenumber Spectrum Analysis	J. Capon	Proc. IEEE 57, 1408 (1969), DDC AD-696880
3394	Far Infrared and Submillimeter Impact Ionization Modulator	I. Melngailis P. E. Tannenwald	Proc. IEEE (Letters) 57, 806 (1969), DDC AD-693896
3395	Interpretation of Radar and Radio Observations of Venus	M. A. Slade I. I. Shapiro	J. Geophys. Res. 75, 3301 (1970), DDC AD-714320

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3396	Intermodulation Product and Switching Noise Amplitudes of a p-i-n Diode Switch in the UHF Band	R. L. Sicotte R. N. Assaly	IEEE Trans. Microwave Theory Tech. MTT-18, 48 (1970), DDC AD-707830
3398	Multifunction Single-Package Antenna System for Spin-Stabilized Near-Synchronous Satellite	J. B. Rankin M. E. Devane M. L. Rosenthal	IEEE Trans. Antennas Propag. AP-17, 435 (1969), DDC AD-696881
3399	A Deployable Cross LPD Array on a Conducting Cone	P-R. Wu	IEEE Trans. Antennas Propag. AP-17, 428 (1969), DDC AD-696882
3400	Magnetoreflection Studies in Arsenic	M. Maltz M. S. Dresselhaus	Phys. Rev. 182, 741 (1969), DDC AD-696242
3401	VHF Antenna Systems for Spin-Stabilized Satellites	M. L. Rosenthal M. E. Devane B. F. LaPage	IEEE Trans. Antennas Propag. AP-17, 443 (1969), DDC AD-696883
3402	Longitudinal Section Mode Analysis of Dielectrically Loaded Rectangular Waveguides with Application to Phase Shifter Design	G. N. Tsandoulas D. H. Temme F. G. Willwerth	IEEE Trans. Microwave Theory Tech. MTT-18, 88 (1970), DDC AD-707584
3406	Method for Fabricating High Frequency Surface Wave Transducers	H. I. Smith	Rev. Sci. Instr. 40, 729 (1969), DDC AD-693812
3412A	Experimental Comparison of Hartree-Fock and Slater Exchange Potentials in Aluminum from the Charge Density Point of View	P. M. Raccah V. E. Henrich	Intl. J. Quantum Chem. 3S, Pt. 2, 797 (1970), DDC AD-706145
3417	Space-Time Symmetry Restrictions on Transport Coefficients. III. Thermogalvanomagnetic Coefficients	W. H. Kleiner	Phys. Rev. 182, 705 (1969), DDC AD-695895
3418	Domain Wall Profiles in Magnetic Films	M. S. Cohen K. J. Harte	J. Appl. Phys. 40, 3597 (1969), DDC AD-699461
3419	Radar Observations of Icarus	G. H. Pettengill I. I. Shapiro M. E. Ash R. P. Ingalls L. P. Rainville W. B. Smith M. L. Stone	Icarus 10, 432 (1969), DDC AD-699267
3420	Negative-Magnetoresistance Effects in Ti_2O_3	J. M. Honig L. L. Van Zandt T. B. Reed J. Sohn	Phys. Rev. 182, 863 (1969), DDC AD-696245

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3422	Remarks on the Fast Fourier Transform	C. M. Rader	IEEE Trans. Audio Electroacoust. AU-17, 72 (1969), DDC AD-696879
3423	Brillouin Scattering Study of Acoustic Attenuation in Fused Quartz	A. S. Pine	Phys. Rev. 185, 1187 (1969), DDC AD-703759
3426	GaAs Schottky Barrier Avalanche Photodiodes	W. T. Lindley R. J. Phelan, Jr. C. M. Wolfe A. G. Foyt	Appl. Phys. Letters 14, 197 (1969), DDC AD-694323
3427	Homodyne Detection of Infrared Radiation from a Moving Diffuse Target	M. C. Teich	Proc. IEEE 57, 786 (1969), DDC AD-693905
3428	A Comparison of Roundoff Noise in Floating Point and Fixed Point Digital Filter Realizations	C. Weinstein A. V. Oppenheim	Proc. IEEE (Letters) 57, 1181 (1969), DDC AD-693897
3429A	Avalanche Breakdown and Light Emission at Low-Angle Boundaries in n-ZnSe	J. P. Donnelly F. T. J. Smith	Solid-State Electron. 13, 516 (1970), DDC AD-708604
3430	Low-Frequency Diffraction by Moving Conducting Strips	G. N. Tsandoulas	J. Opt. Soc. Am. 59, 1357 (1969), DDC AD-699268
3431	Some Problems in the Theory of Guided Microsonic Waves	R. A. Waldron	IEEE Trans. Microwave Theory Tech. MTT-17, 893 (1969), DDC AD-704460
3435	Sequential Decoding of Systematic and Nonsystematic Convolutional Codes with Arbitrary Decoder Bias	E. A. Bucher	IEEE Trans. Inform. Theory IT-16, 611 (1970)
3437	The Effect of Pressure and B-Cation Size on the Crystal Structure of $CsBF_3$ Compounds (B = Mn, Fe, Co, Ni, Zn, Mg)	J. M. Longo J. A. Kafalas	J. Solid State Chem. 1, 103 (1969), DDC AD-693900
3440	Search for an Effect of the Sun on the Frequency of 18-Centimeter Radiation	J. A. Ball D. F. Dickinson A. E. Lilley H. Penfield I. I. Shapiro	Science 167, 1755 (1970)
3442	Effects of Light on the Charge State of InSb-MOS Devices	W. E. Krag R. J. Phelan, Jr. J. O. Dimmock	J. Appl. Phys. 40, 3661 (1969), DDC AD-699462
3444	Derivation of a Quasiparticle Transport Equation for an Impure Fermi Liquid at Low Temperatures	J. L. Sigel	Phys. Rev. 186, 182 (1969), DDC AD-703491
3446	Envelope Fluctuations in the Output of a Bandpass Limiter	J. Max	IEEE Trans. Commun. Tech. COM-18, 597 (1970), DDC AD-722937

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3447	Polymorphism in Selenospinels – A High Pressure Phase of $CdCr_2Sc_4$	M. D. Banus M. C. Lavine	J. Solid State Chem. 1, 109 (1969), DDC AD-693901
3448	Roundoff Noise in Floating Point Fast Fourier Transform Computation	C. J. Weinstein	IEEE Trans. Audio Electroacoust. AU-17, 209 (1969), DDC AD-703354
3449	Magnetoemission Experiments in $Pb_{1-x}Sn_xTe$	J. F. Butler	Solid State Commun. 7, 909 (1969), DDC AD-708599
3453	A Comparison of Three Non-Linear Filters	R. P. Wishner J. A. Tabaczynski M. Athans	Automatica 5, 487 (1969), DDC AD-699427
3456	Equivalence of the Rayleigh Solution and the Extended-Boundary-Condition Solution for Scattering Problems	M. L. Burrows	Electron. Letters 5, 277 (1969), DDC AD-699269
3460	Metallic Oxides	J. B. Goodenough	Chap. 4 in Progress in Solid State Chemistry, Vol. 5, H. Reiss, editor (Pergamon, Oxford, 1971)
3462	Optimum Radar Signal-Filter Pairs in a Cluttered Environment	D. F. DeLong, Jr. E. M. Hofstetter	IEEE Trans. Inform. Theory IT-16, 89 (1970), DDC AD-704622
3465	Interstellar Hydroxyl Clouds	J. M. Moran, Jr.	Science J. 5A, 60 (1969), DDC AD-699463
3467	Absolute Experimental X-Ray Form Factor of Aluminum	P. M. Raccah V. E. Henrich	Phys. Rev. 184, 607 (1969), DDC AD-699467
3468	Magnetospectroscopy of Shallow Donors in GaAs	G. E. Stillman C. M. Wolfe J. O. Dimmock	Solid State Commun. 7, 921 (1969), DDC AD-693903
3469A	Parameters of Microstrip	J. A. Weiss T. G. Bryant	Electron. Letters 5, 517 (1969), DDC AD-703489
3470	Spin-Polarized Splittings in the Temperature-Dependent Reflectance of EuO	J. Feinleib W. J. Scouler J. O. Dimmock J. Hanus T. B. Reed C. R. Pidgeon	Phys. Rev. Letters 22, 1385 (1969), DDC AD-693899
3471	RFI Measurements at UHF on a Pulsed Plasma Thruster	R. L. Sicotte	J. Spacecraft 7, 337 (1970), DDC AD-708591
3473	Error Probability Bounds for Systematic Convolutional Codes	E. A. Bucher J. A. Heller	IEEE Trans. Inform. Theory IT-16, 219 (1970)
3475	Efficient Doping of GaAs by Se^+ Ion Implantation	A. G. Foyt J. P. Donnelly W. T. Lindley	Appl. Phys. Letters 14, 372 (1969), DDC AD-699465

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3483	X-Ray Diffraction Studies on Zn_3As_2 and Cd_3As_2 at High Pressure	M. D. Banus M. C. Lavine	High Temperatures-High Pressures 1, 269 (1969), DDC AD-704458
3485	Velocity and Attenuation of Hypersonic Waves in Liquid Nitrogen	A. S. Pine	J. Chem. Phys. 51, 5171 (1969), DDC AD-704624
3486	A Beam-Lead Substrate Package for a Six-Stage TTL Shift Register	F. Bachner R. A. Cohen R. Mountain R. E. McMahon	Microelectronics and Reliability 8, 307 (1969), DDC AD-704422
3489	Venus: Mapping the Surface Reflectivity by Radar Interferometry	A. E. E. Rogers R. P. Ingalls	Science 165, 797 (1969), DDC AD-696246
3490	Hydroxyl and Water Masers in Protostars	M. M. Litvak	Science 165, 855 (1969), DDC AD-696247
3491	Perturbation of the Refractive Index of Absorbing Media by a Pulsed Laser Beam	P. R. Longaker M. M. Litvak	J. Appl. Phys. 40, 4033 (1969), DDC AD-699270
3492	A State-Space Bandwidth Constraint for Problems in Waveform Design	R. J. McAulay	IEEE Trans. Inform. Theory IT-16, 83 (1970), DDC AD-704625
3493	Water Vapor: Observations of Galactic Sources	M. L. Meeks J. C. Carter A. H. Barrett P. R. Schwartz J. W. Waters W. E. Brown, III	Science 165, 180 (1969), DDC AD-694188
3495	Mode Spectrum of a Microsound Waveguide Consisting of an Isotropic Rectangular Overlay on a Perfectly Rigid Substrate	R. A. Waldron	IEEE Trans. Sonics Ultrason. SU-18, 8 (1971), DDC AD-720639
3496	Barankin Bounds on Parameter Estimation	R. J. McAulay E. M. Hofstetter	IEEE Trans. Inform. Theory IT-17, 669 (1971)
3498	Polarons Bound in a Coulomb Potential. I. Ground State	D. M. Larsen	Phys. Rev. 187, 1147 (1969), DDC AD-707818
3499	Infrared Cyclotron Resonance and Related Experiments in the Conduction Band of InSb	E. J. Johnson D. H. Dickey	Phys. Rev. B 1, 2676 (1970), DDC AD-710445
3500	Absolute Specular Reflectance Measurements of Highly Reflecting Optical Coatings at 10.6 μ	D. Kelsall	Appl. Opt. 9, 85 (1970), DDC AD-707577

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3501	Evidence for a Native Donor in ZnSe from High Temperature Electrical Measurements	F. T. J. Smith	Solid State Commun. 7, 1757 (1969), DDC AD-722912
3502	Seasonal Variation of the F_1-Region Ion Composition	J. V. Evans L. P. Cox	J. Geophys. Res. 75, 159 (1970), DDC AD-703492
3503A	Millimetre Wave Emission by Interstellar Dust	M. M. Litvak	Nature 223, 1143 (1969), DDC AD-699264
3504	An Interdigital-Line Radiator	P. R. Wu	IEEE Trans. Antennas Propag. AP-17, 796 (1969)
3507	Magnetic Field Dependence of Laser Emission in $Pb_{1-x}Sn_xSe$ Diodes	A. R. Calawa J. O. Dimmock T. C. Harman I. Melngailis	Phys. Rev. Letters 23, 7 (1969), DDC AD-694137
3511	Fast Fourier Transform of Externally Stored Data	N. M. Brenner	IEEE Trans. Audio Electroacoust. AU-17, 128 (1969), DDC AD-696248
3512	Magnetic Anisotropy and Magnetostriction Constants of MgMn Ferrites at 300°K	G. F. Dionne	J. Appl. Phys. 41, 831 (1970), DDC AD-707583
3517	Resonant Raman Scattering from LO Phonons in Polar Semiconductors	D. C. Hamilton	Phys. Rev. 188, 1221 (1969), DDC AD-707571
3519	Detection of Conjugate Photoelectrons at Millstone Hill	J. V. Evans I. J. Gastman	J. Geophys. Res. 75, 807 (1970), DDC AD-704626
3520	An On-Line Data Recording System	W. Krag N. Daggett R. N. Davis F. Perkins	Rev. Sci. Instr. 40, 1606 (1969), DDC AD-703490
3521	Ionized Impurity Density in n-Type GaAs	C. M. Wolfe G. E. Stillman J. O. Dimmock	J. Appl. Phys. 41, 504 (1970), DDC AD-707572
3523	Comment on "Chemistry of Electrons in Pure-Air Hypersonic Wakes"	P. W. Langhoff	AIAA J. 8, 382 (1970), DDC AD-714738
3524	Inelastic Light Scattering from Semiconductor Plasmas in a Magnetic Field	F. A. Blum	Phys. Rev. B 1, 1125 (1970), DDC AD-708590
3525	Magnetic Ordering Effects in the Ultra-violet Reflectance of EuS and EuSe	W. J. Scouler J. Feinleib J. O. Dimmock C. R. Pidgeon	Solid State Commun. 7, 1685 (1969)
3526	Transmission of Step Functions by Loop Antennas	A. R. Dion	IEEE Trans. Antennas Propag. AP-18, 389 (1970), DDC AD-714310

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3528	Linear Wave-Vector Shifts in the Raman Spectrum of α-Quartz and Infrared Optical Activity	A. S. Pine G. Dresselhaus	Phys. Rev. 188, 1489 (1969), DDC AD-707581
3530	Ferrimagnetic Resonance Measurement of the λ_{111} Magnetostriction Constant with the Magnetic Field Along a $\langle 111 \rangle$ Axis	G. F. Dionne	J. Appl. Phys. 41, 2264 (1970), DDC AD-710464
3531	The Role of Solid State in Phased-Array Radars	H. T. MacFarland C. Blake	Microwave J. 12, 63 (1969)
3535	Electron Beam Detection of Charge Storage in MOS Capacitors	E. E. Huber, Jr. M. S. Cohen D. O. Smith	Appl. Phys. Letters 16, 147 (1970)
3537	A Digital Channel Vocoder	T. Bially W. M. Anderson	IEEE Trans. Commun. Tech. COM-18, 435 (1970), DDC AD-714743
3538	The Calculation of Electronic Energy Bands by the Augmented Plane Wave Method	J. O. Dimmock	Solid State Physics, Vol. 26, F. Seitz and D. Turnbull, editors (Academic Press, New York, 1971), p. 103
3539	Positron Annihilation in Copper – Comparisons of Different Results	J. Melngailis	Phys. Rev. B 2, 563 (1970), DDC AD-714448
3541	Magnetic Ordering Effects on the Reflectivity of EuS and EuSe	C. R. Pidgeon J. Feinleib W. J. Scouler J. Hanus J. O. Dimmock T. B. Reed	Solid State Commun. 7, 1323 (1969)
3542	An Algol-Based Associative Language	J. A. Feldman P. D. Rovner	Commun. ACM 12, 439 (1969), DDC AD-699271
3543	Realization of Digital Filters Using Block-Floating-Point Arithmetic	A. V. Oppenheim	IEEE Trans. Audio Electroacoust. AU-18, 130 (1970), DDC AD-714052
3544	Example of the Generalised-Function Validity of the Rayleigh Hypothesis	M. L. Burrows	Electron. Letters 5, 694 (1969), DDC AD-707574
3545	Cadmium Rhenium(V) Oxide, $Cd_2Re_2O_7$	J. M. Longo P. C. Donohue D. A. Batson	Accepted Inorg. Synth.
3546	Transport Equation for a Fermi System in Random Scattering Centers. II. Independent Electrons in an Arbitrarily Varying Electric Field and Strong Single-Center Potentials	J. L. Sigel P. N. Argyres	Phys. Rev. B 1, 1845 (1970), DDC AD-709758

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3547	Polaron Cyclotron Resonance in CdTe	J. Waldman D. M. Larsen P. E. Tannenwald C. C. Bradley D. R. Cohn B. Lax	Phys. Rev. Letters 23, 1033 (1969), DDC AD-704529
3548	A Conceptual Phase Diagram for Outer Electrons in Solids	J. B. Goodenough	Accepted Current Topics in Magnetism (Gordon & Breach, New York)
3549	Analysis and Evaluation of a Method of Measuring the Complex Permittivity and Permeability of Microwave Insulators	W. E. Courtney	IEEE Trans. Microwave Theory Tech. MTT-18, 476 (1970), DDC AD-714470
3551	Niobium Monoxide $3\ Nb + Nb_2O_5 \rightarrow 5\ NbO$	T. B. Reed E. R. Pollard L. E. Lonney R. E. Loehman J. M. Honig	Accepted Inorg. Synth.
3552	Resistivity, Magnetoresistance, and Hall Effect Studies in $VO_x (0.82 \leqslant x \leqslant 1.0)$	J. M. Honig W. E. Wahnsiedler M. D. Banus T. B. Reed	J. Solid State Chem. 2, 74 (1970), DDC AD-716064
3553	MIS Electroluminescent Diodes in ZnTe	J. P. Donnelly A. G. Foyt W. T. Lindley G. W. Iseler	Solid-State Electron. 13, 755 (1970), DDC AD-714318
3556	Design of Surface Wave Delay Lines with Interdigital Transducers	W. R. Smith H. M. Gerard J. H. Collins T. M. Reeder H. J. Shaw	IEEE Trans. Microwave Theory Tech. MTT-17, 865 (1969)
3557	Hall Coefficient Factor for Polar Mode Scattering in n-Type GaAs	G. E. Stillman C. M. Wolfe J. O. Dimmock	J. Phys. Chem. Solids 31, 1199 (1970), DDC AD-714321
3558	Intensities of Spin-Wave Resonance Modes in Thin Films	R. Weber P. E. Tannenwald C. H. Bajorek	Appl. Phys. Letters 16, 35 (1970), DDC AD-707568
3560	Determination of F-Region Vertical Drifts at Millstone Hill	J. V. Evans R. A. Brockelman R. F. Julian W. A. Reid L. A. Carpenter	Radio Sci. 5, 27 (1970), DDC AD-704531
3562	Microsound Components, Circuits, and Applications	E. Stern	IEEE Trans. Microwave Theory Tech. MTT-17, 835 (1969), DDC AD-704632

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3564	Hard X-Rays from the Crab Pulsar	F. W. Floyd I. S. Glass H. W. Schnopper	Nature 224, 50 (1969)
3565	Design of Radar Signals and Receivers Subject to Implementation Errors	D. F. DeLong	IEEE Trans. Inform. Theory IT-16, 707 (1970), DDC AD-716071
3571	Apparatus for the Accurate Determination of Flange Focal Distance	B. Howland A. F. Proll	Appl. Opt. 9, 1247 (1970), DDC AD-716072
3574	Traffic Control in Space	A. A. Braga-Illa	Nature 226, 503 (1970), DDC AD-714051
3575	S Velocities at Near Distances in Western Central California	J. Filson	Bull. Seismol. Soc. Am. 60, 901 (1970), DDC AD-710446
3577	Reinterpretation of $^4A_2 \rightarrow {}^2E$ Exciton Spectra in $YCrO_3$	J. W. Allen	Solid State Commun. 8, 53 (1970), DDC AD-707566
3578	Search for ^{18}OH in Emission	J. A. Ball H. Penfield	Astrophys. J. 160, 349 (1970)
3579	Photoluminescence Due to Isoelectronic Oxygen and Tellurium Traps in II-VI Alloys	G. W. Iseler A. J. Strauss	J. Luminescence 3, 1 (1970), DDC AD-710448
3580	Electrically Active Point Defects in Cadmium Telluride	F. T. J. Smith	Met. Trans. 1, 617 (1970), DDC AD-707569
3581	Power Flow and Energy Storage in Piezoelectric Semiconductor Devices	H. Berger R. I. Harrison S. P. Denker	IEEE Trans. Microwave Theory Tech. MTT-18, 105 (1970)
3582	Interpretation of $M_xV_2O_5$-β and $M_xV_{2-y}T_yO_5$-β Phases	J. B. Goodenough	J. Solid State Chem. 1, 349 (1970)
3583	Far-Infrared Recombination Radiation from Impact-Ionized Shallow Donors in GaAs	I. Melngailis G. E. Stillman J. O. Dimmock C. M. Wolfe	Phys. Rev. Letters 23, 1111 (1969), DDC AD-704633
3585	Residual Impurities in High-Purity Epitaxial GaAs	C. M. Wolfe G. E. Stillman E. B. Owens	J. Electrochem. Soc. 117, 129 (1970), DDC AD-703487
3586	Optical Observation of Magnetic-Field-Induced Spin Alignment in Antiferromagnetic EuTe	J. Feinleib C. R. Pidgeon	Phys. Rev. Letters 23, 1391 (1969), DDC AD-704634

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3587	Split-Off Valence Band Parameters for GaAs from Stress-Modulated Magnetoreflectivity	M. Reine R. L. Aggarwal B. Lax C. M. Wolfe	Phys. Rev. B 2, 458 (1970)
3589	Natural Mode of Oscillation in a p-n Avalanche Diode	D. Parker A. I. Grayzel	Proc. IEEE (Letters) 58, 266 (1970)
3590	Thermodynamics and Calculation of the Liquidus-Solidus Gap in Homogeneous, Monotonic Alloy Systems	J. Steininger	J. Appl. Phys. 41, 2713 (1970), DDC AD-714312
3591	Comparison of Theoretical and Experimental Charge Densities for C, Si, Ge, and ZnSe	P. M. Raccah R. N. Euwema D. J. Stukel T. C. Collins	Phys. Rev. B 1, 756 (1970)
3592	Structure and Magnetic Properties of $VOSO_4$	J. M. Longo R. J. Arnott	J. Solid State Chem. 1, 394 (1970), DDC AD-710461
3595	OH Radio Emission Associated with Infrared Stars	W. J. Wilson A. H. Barrett J. M. Moran	Astrophys. J. 160, 545 (1970), DDC AD-710451
3596	Application of Detection and Estimation Theory to Large Array Seismology	J. Capon	Proc. IEEE 58, 760 (1970), DDC AD-714323
3597	The Hubbard Model: Insulator or Conductor for Narrow Band Regime?	R. A. Bari R. V. Lange	Phys. Letters 30A, 418 (1969)
3599	Surface-Height Variations on Venus and Mercury	W. B. Smith R. P. Ingalls I. I. Shapiro M. E. Ash	Radio Sci. 5, 411 (1970), DDC AD-709750
3601	Structure of the $M_xV_2O_5$-β and $M_xV_{2-y}T_yO_5$-β Phases	J. Galy J. Darriet A. Casalot J. B. Goodenough	J. Solid State Chem. 1, 339 (1970)
3602	Laser Raman Spectroscopy	A. Mooradian	Science 169, 20 (1970), DDC AD-714316
3603A	Simple Model Potential Approach to the X-Ray Form Factor in Aluminium	P. Ascarelli P. M. Raccah	Phys. Letters 31A, 549 (1970)
3604	A Stable Frequency Doubler Using a Series-Parallel Array of Eight Diodes	D. Parker A. I. Grayzel	Proc. IEEE (Letters) 58, 481 (1970), DDC AD-709754
3605	Stepped-Sweep Generator	E. J. Aho	Electron. Instr. Dig. 6, 51 (1970)

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3606	High Temperature Electrical Properties of CdSe: Evidence for a Native Donor	F. T. J. Smith	Solid State Commun. 8, 263 (1970), DDC AD-707495
3607	Numerical Determination of Potential in Inhomogeneous Dielectrics by Earnshaw's Theorem	J. A. Weiss T. G. Bryant	IEEE Trans. Microwave Theory Tech. MTT-18, 595 (1970), DDC AD-716073
3608	Vapor-Crystal Equilibrium and Electrical Properties of HgTe	A. J. Strauss R. F. Brebrick	J. Phys. Chem. Solids 31, 2293 (1970), DDC AD-716074
3609	Remote Probing of the Moon by Infrared and Microwave Emissions and by Radar	T. Hagfors	Radio Sci. 5, 189 (1970), DDC AD-709760
3610	Localized One-Electron States in Perfect Crystals as a Consequence of the Thermal Single-Determinant Approximation	T. A. Kaplan P. N. Argyres	Phys. Rev. B 1, 2457 (1970), DDC AD-710465
3611	Magnetic Susceptibility of Europium Trifluoride	S. Kern P. M. Raccah A. Tveten	J. Phys. Chem. Solids 31, 2639 (1970)
3612	Theory of Surface Plasmon Excitation in Low-Energy Electron Diffraction and in Photoemission	K. L. Ngai E. N. Economou M. H. Cohen	Phys. Rev. Letters 24, 61 (1970), DDC AD-704636
3613	Perturbation Formulas for Elastic Resonators and Waveguides	R. A. Waldron	IEEE Trans. Sonics Ultrason. SU-18, 16 (1971), DDC AD-720640
3615	Long Period SH_n	J. R. Filson	Bull. Seismol. Soc. Am. 60, 1297 (1970), DDC AD-714317
3617	Comments on "A Simple Adaptive Algorithm for Real-Time Processing in Antenna Arrays"	R. T. Lacoss	Proc. IEEE (Letters) 58, 797 (1970)
3618	Phase Diagram of the Zn-Cd-Te Ternary System	J. Steininger A. J. Strauss R. F. Brebrick	J. Electrochem. Soc. 117, 1305 (1970), DDC AD-714744
3620	Interband Magnetoreflection of α-Sn	S. H. Groves C. R. Pidgeon A. W. Ewald R. J. Wagner	J. Phys. Chem. Solids 31, 2031 (1970), DDC AD-723794
3623	"Backward Masking" of Simple Detection Latencies	M. Grossberg	Perception and Psychophysics 8, 308 (1970), DDC AD-714322
3624	Interstellar Masers	D. F. Dickinson M. M. Litvak B. M. Zuckerman	Sky and Telescope 39, 4 (1970)

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3626	Simple Versatile Techniques for Qualitative and Quantitative Evaluation of Spark Source Mass Spectrographic Plates	E. B. Owens	Rev. Sci. Instr. 41, 636 (1970), DDC AD-710459
3627	Polarons Bound in a Coulomb Potential. II. 2P-State Zeeman Effect	D. M. Larsen	Phys. Rev. B 2, 4209 (1970)
3628	Electronic Structure of Palladium	F. M. Mueller A. J. Freeman J. O. Dimmock A. M. Furdyna	Phys. Rev. B 1, 4617 (1970), DDC AD-714311
3630	Detection and Estimation Practices in Radio and Radar Astronomy	T. Hagfors J. M. Moran	Proc. IEEE 58, 743 (1970)
3631	Electrical Conductivity in Narrow Energy Bands	R. A. Bari D. Adler R. V. Lange	Phys. Rev. B 2, 2898 (1970), DDC AD-723772
3632	Radar Measurements of the Surface Topography and Roughness of Mars	A. E. E. Rogers M. E. Ash C. C. Counselman I. I. Shapiro G. H. Pettengill	Radio Sci. 5, 465 (1970)
3633	Electron Mobility in High-Purity GaAs	C. M. Wolfe G. E. Stillman W. T. Lindley	J. Appl. Phys. 41, 3088 (1970), DDC AD-714449
3634	High-Resolution Infrared Spectroscopy with a Tunable Diode Laser	E. D. Hinkley	Appl. Phys. Letters 16, 351 (1970), DDC AD-709752
3635	Millstone Hill Thomson Scatter Results for 1965	J. V. Evans	Planet. Space Sci. 18, 1225 (1970), DDC AD-716056
3636	Spinwave Linewidth Measurements with Low-Power RF Sources	W. E. Courtney D. H. Temme	IEEE Trans. Microwave Theory Tech. MTT-18, 510 (1970), DDC AD-714734
3637	Midlatitude Ionospheric Temperatures during Three Magnetic Storms in 1965	J. V. Evans	J. Geophys. Res. 75, 4803 (1970), DDC AD-714447
3638	Frequency Dependence of a Coupled Pair of Microstrip Lines	E. J. Denlinger	IEEE Trans. Microwave Theory Tech. MTT-18, 731 (1970)
3639	A Frequency Dependent Solution for Microstrip Transmission Lines	E. J. Denlinger	IEEE Trans. Microwave Theory Tech. MTT-19, 30 (1971)
3643	Pulsed Plasma Microthruster Propulsion System for Synchronous Orbit Satellite	W. J. Guman D. M. Nathanson	J. Spacecraft 7, 409 (1970)

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3646	Quantitative Analysis of Ternary and Quaternary Semiconducting Alloys with Electron Microprobe	M. C. Finn	Anal. Chem. 42, 1084 (1970), DDC AD-714314
3647	Deflection of a CO_2-Laser Beam in an Absorbing Gas	H. Kleiman R. W. O'Neil	J. Opt. Soc. Am. 61, 12 (1971), DDC AD-722899
3648	n-p Junction Photodetectors in InSb Fabricated by Proton Bombardment	A. G. Foyt W. T. Lindley J. P. Donnelly	Appl. Phys. Letters 16, 335 (1970), DDC AD-709748
3650	Pressure-Induced Pyrochlore to Perovskite Transformations in the $Sr_{1-x}Pb_xRuO_3$ System	J. A. Kafalas J. M. Longo	Mater. Res. Bull. 5, 193 (1970), DDC AD-707582
3651A	Anomalous Absorption of Microwaves by Interstellar H_2CO	M. M. Litvak	Astrophys. J. (Letters) 160, L-133 (1970), DDC AD-710447
3652	Resonant Amplification and Coupling of Acoustic Surface Waves with Electrons Drifting Across a Magnetic Field	A. Bers B. E. Burke	Appl. Phys. Letters 16, 300 (1970), DDC AD-708592
3654	The Integration of Functions Which Are Solutions of Differential Equations of a Certain Type	R. A. Waldron	Quart. J. Mech. Appl. Math. (London) XXIV, Part 2, 251 (1971)
3655	High Resolution Millimeter Reflector Antennas	J. R. Cogdell J. J. G. McCue et al.	IEEE Trans. Antennas Propag. AP-18, 515 (1970), DDC AD-714735
3657	X-Ray Diffraction at High Pressures (A Review)	M. D. Banus	High Temperatures-High Pressures 1, 483 (1969)
3658	The LX-1 Microprocessor and Its Application to Real-Time Signal Processing	G. D. Hornbuckle E. I. Ancona	IEEE Trans. Computers C-19, 710 (1970), DDC AD-714053
3659A	Direct Observation of Acoustical Activity in α Quartz	A. S. Pine	Phys. Rev. B 2, 2049 (1970), DDC AD-716075
3660	Pressure Dependence of the Electrical Resistivity of EuO	M. R. Oliver J. A. Kafalas J. O. Dimmock T. B. Reed	Phys. Rev. Letters 24, 1064 (1970), DDC AD-710463
3661	Collective Oscillations in a Simple Metal. 1. Spin Waves	A. Wilson D. R. Fredkin	Phys. Rev. B 2, 4656 (1970), DDC AD-723769
3663	The Crystal Structure of Hexagonal $RbNiF_3$(6H)	R. J. Arnott J. M. Longo	J. Solid State Chem. 2, 416 (1970), DDC AD-720641

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3668	Optical Heterodyne Mixing Efficiency Invariance	A. H. M. Ross	Proc. IEEE 58, 1766 (1970), DDC AD-723770
3669	Diffraction of Electromagnetic Waves by a Moving Impedance Wedge	K. C. Lang	Radio Sci. 6, 655 (1971)
3670	RFI Measurements on a LES-7 Prototype Pulsed Plasma Thruster	R. E. Dolbec	J. Spacecraft 7, 889 (1970), DDC AD-714736
3671	The Venus Radius Controversy	W. B. Smith	Science 169, 1001 (1970), DDC AD-714746
3672	Laser Emission from Metal-Semiconductor Barriers on PbTe and $Pb_{0.8}Sn_{0.2}Te$	K. W. Nill A. R. Calawa T. C. Harman J. N. Walpole	Appl. Phys. Letters 16, 375 (1970), DDC AD-706308
3674	Thermally Self-Induced Phase Modulation of Laser Beams	F. W. Dabby T. K. Gustafson J. R. Whinnery Y. Kohanzadeh P. L. Kelley	Appl. Phys. Letters 16, 362 (1970), DDC AD-723771
3678A	Rigid and Non-Rigid Beam-Lead Substrates	F. J. Bachner R. A. Cohen R. E. McMahon	Solid State Tech. 13, 62 (1970), DDC AD-716079
3679	Standing-Wave Saturation Resonances in the CO_2 10.6-μ Transitions Observed in a Low-Pressure Room-Temperature Absorber Gas	C. Freed A. Javan	Appl. Phys. Letters 17, 53 (1970), DDC AD-714750
3681	Ultrasonic Attenuation Near the Spin-Alignment Transition of EuTe	Y. Shapira T. B. Reed	Phys. Letters 31A, 381 (1970)
3682	Narrow-Band Expansions in the Hubbard Model: A Comment	R. A. Bari	Phys. Rev. B 2, 2260 (1970), DDC AD-716080
3684	Growth of EuO, EuS, EuSe and EuTe Single Crystals	T. B. Reed R. E. Fahey	J. Crystal Growth 8, 337 (1971), DDC AD-729595
3685	Conductivity of a Weakly Ionized Plasma as Related to Particle Diffusion in μ Space	T. Hagfors	Phys. Fluids 13, 2790 (1970), DDC AD-716081
3686	Polarized Maser Emission from Interstellar OH and H_2O	M. M. Litvak	Phys. Rev. A 2, 937 (1970), DDC AD-714054
3687	Phase Diagram of the CdTe-CdSe Pseudobinary System	A. J. Strauss J. Steininger	J. Electrochem. Soc. 117, 1420 (1970), DDC AD-716082

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3691	Phase Transitions in Perovskitelike Compounds of the Rare Earths	S. Geller P. M. Raccah	Phys. Rev. B 2, 1167 (1970)
3692	UHF Avalanche Diode Oscillator Providing 400 Watts Peak Power and 75 Percent Efficiency	D. F. Kostishack	Proc. IEEE 58, 1282 (1970), DDC AD-716083
3693	Balloon Flight Instrumentation for Solar Cell Measurements	F. W. Sarles, Jr. W. C. Haase P. F. McKenzie	Rev. Sci. Instr. 42, 346 (1971), DDC AD-728182
3694	Studies of H_2O Sources by Means of a Very-Long-Baseline Interferometer	B. F. Burke D. C. Papa G. D. Papadopoulos P. R. Schwartz S. H. Knowles W. T. Sullivan M. L. Meeks J. M. Moran	Astrophys. J. (Letters) 160, L63 (1970), DDC AD-709030
3695	F-Region Heating Observed during the Main Phase of Magnetic Storms	J. V. Evans	J. Geophys. Res. 75, 4815 (1970), DDC AD-714446
3697	Analysis of Rayleigh-Wave Multipath Propagation at LASA	J. Capon	Bull. Seismol. Soc. Am. 60, 1701 (1970), DDC AD-716084
3698	Synthesis of the Fields of a Transverse Feed for a Spherical Reflector	L. J. Ricardi	IEEE Trans. Antennas Propag. AP-19, 310 (1971)
3699A	A One-Watt CW High-Efficiency X-Band Avalanche-Diode Amplifier	D. M. Snider	IEEE Trans. Microwave Theory Tech. MTT-18, 963 (1970), DDC AD-723757
3701	Analysis of Frozen Aqueous Solutions by Spark Source Mass Spectroscopy	E. B. Owens	Anal. Letters 3, 223 (1970), DDC AD-710462
3702	Impedance Matching to Self-Resonant Diodes	R. J. Sasiela H. Berger	IEEE Trans. Electron Devices ED-17, 942 (1970)
3704	Angular Size of the High Energy X-ray Source in the Crab Nebula	F. W. Floyd, Jr.	Nature 226, 733 (1970)
3705	Realization of the Gauss-in-Gauss Detector Using Minimum-Mean-Squared-Error Filters	R. J. McAulay R. D. Yates	IEEE Trans. Inform. Theory IT-17, 207 (1971), DDC AD-729596
3709	Speech Spectrograms Using the Fast Fourier Transform	A. V. Oppenheim	IEEE Spectrum 7, 57 (1970), DDC AD-713751

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3710	Seasonal Variation of the O/N_2 Ratio in the F_1 Region	L. P. Cox J. V. Evans	J. Geophys. Res. 75, 6271 (1970), DDC AD-722911
3711	Probability Distributions for Estimators of the Frequency-Wavenumber Spectrum	J. Capon N. R. Goodman	Proc. IEEE 58, 1785 (1970), DDC AD-723788
3712	Translational Symmetry of Optical Excitons and Magnons in Cr_2O_3	J. W. Allen	Phys. Rev. Letters 25, 934 (1970), DDC AD-716085
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. 6, 609 (1971)
3714B	Observation of F Region Vertical Velocities at Millstone Hill, II, Variation of Velocity with Altitude	J. V. Evans	Accepted Radio Sci.
3714C	Observation of F Region Vertical Velocities at Millstone Hill, III, Determination of Altitude Distribution of H^+	J. V. Evans J. M. Holt	Accepted Radio Sci.
3715	Audio Frequency Spectrum Analysis Using MOS Memory Elements	T. Bially	IEEE Trans. Audio Electroacoust. AU-18, 201 (1970), DDC AD-714055
3716	Phase Diagram of the PbTe-PbSe Pseudobinary System	J. Steininger	Met. Trans. 1, 2939 (1970), DDC AD-714468
3717	A Comparison of Two Nonreciprocal Latching Phaser Configurations	W. J. Ince J. DiBartolo D. H. Temme F. G. Willwerth	IEEE Trans. Microwave Theory Tech. MTT-19, 105 (1971), DDC AD-729597
3720	The June 1965 Magnetic Storm: Millstone Hill Observations	J. V. Evans	J. Atmos. Terr. Phys. 32, 1629 (1970), DDC AD-716057
3721	Seebeck Coefficients in Vanadium Spinels	J. B. Goodenough	Mater. Res. Bull. 5, 621 (1970), DDC AD-714315
3722	Very Long Baseline Interferometry with Large Effective Bandwidth for Phase-Delay Measurements	A. E. E. Rogers	Radio Sci. 5, 1239 (1970), DDC AD-716088
3725	Harmonic Generation in Cold Nonuniform Plasma in a Magnetic Field	F. A. Blum	Phys. Fluids 14, 196 (1971), DDC AD-721057
3726	Some Experiments on the Propagation of Light Pulses Through Clouds	E. A. Bucher R. M. Lerner C. W. Niessen	Proc. IEEE 58, 1564 (1970), DDC AD-721062

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3728	Very Long Baseline Interferometry of Galactic OH Sources	B. O. Ronnang O. E. H. Rydbeck J. M. Moran	Radio Sci. 5, 1227 (1970), DDC AD-716092
3729	Beam Lead Tunnel Diode Amplifiers on Microstrip	J. D. Welch	IEEE Trans. Microwave Theory Tech. MTT-18, 1077 (1970), DDC AD-728083
3730	Si_3N_4-Masked Thermally Oxidized Post-Diffused Mesa Process (SIMTOP)	R. A. Cohen R. W. Mountain	IEEE Trans. Electron Devices ED-18, 54 (1971), DDC AD-723787
3731	A Fast Method of Generating Digital Random Numbers	C. M. Rader L. R. Rabiner R. W. Schafer	Bell System Tech. J. 49, 2303 (1970)
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	Part I: Theory and Phenomenology	G. N. Tsandoulas W. J. Ince	IEEE Trans. Microwave Theory Tech. MTT-19, 386 (1971), DDC AD-729625
	Part II: Application to Latching Nonreciprocal Phasers	W. J. Ince G. N. Tsandoulas	IEEE Trans. Microwave Theory Tech. MTT-19, 393 (1971), DDC AD-729626
3734	Microsound Waveguides and Waveguide Components	R. A. Waldron	Accepted IEEE Trans. Sonics Ultrason.
3735	High Pressure Synthesis	J. B. Goodenough J. A. Kafalas J. M. Longo	Accepted as chapter in Preparative Methods in Solid State Chemistry (Academic Press, New York)
3736	Dielectric Green's Function for Parameters of Microstrip	J. A. Weiss T. G. Bryant	Electron. Letters 6, 462 (1970), DDC AD-714752
3737	Study of the Spin-Reordering Transition in Cr_5S_6	K. Dwight N. Menyuk J. A. Kafalas	Phys. Rev. B 2, 3630 (1970), DDC AD-720642
3738	Effects of Hydrostatic Pressure and of Jahn-Teller Distortions on the Magnetic Properties of $RbFeF_3$	J. B. Goodenough N. Menyuk K. Dwight J. A. Kafalas	Phys. Rev. B 2, 4640 (1970)
3739	The Optical Scatter Channel	R. M. Lerner A. E. Holland	Proc. IEEE 58, 1547 (1970), DDC AD-721061
3740	Resonant Coupling of Landau Levels via LO Phonons in Polar Semiconductors and its Effects on the Landau-Level Raman Scattering from Semiconductor Plasmas	K. L. Ngai	Phys. Rev. B 3, 1303 (1971), DDC AD-723745

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3741	Partial and Total Vapor Pressures over Molten Bi_2Te_3	R. F. Brebrick F. T. J. Smith	J. Electrochem. Soc. 118, 991 (1971), DDC AD-729627
3742	The FDP, A Fast Programmable Signal Processor	B. Gold I. L. Lebow P. G. McIlugh C. M. Rader	IEEE Trans. Computers C-20, 33 (1971), DDC AD-728092
3743	An Improved Algorithm for High Speed Autocorrelation with Applications to Spectral Estimation	C. M. Rader	IEEE Trans. Audio Electroacoust. AU-18, 439 (1970), DDC AD-723768
3746	A 40-ns 17-Bit by 17-Bit Array Multiplier	S. D. Pezaris	IEEE Trans. Computers C-20, 442 (1971), DDC AD-729628
3747	Electron Spin Waves in Nonmagnetic Conductors: Self-Consistent-Field Theory	F. A. Blum	Phys. Rev. B 3, 2258 (1971), DDC AD-728094
3748	Shubnikov-de Haas Measurements in $Pb_{1-x}Sn_xTe$	J. Melngailis T. C. Harman J. G. Mavroides J. O. Dimmock	Phys. Rev. B 3, 370 (1971), DDC AD-721065
3749	Acoustic Surface Wave Amplification Using an Accumulation Layer on Silicon	B. E. Burke A. Bers H. I. Smith R. A. Cohen R. W. Mountain	Proc. IEEE 58, 1775 (1970), DDC AD-722925
3751	Composition Stability Limits for the Rocksalt-Structure Phase $(Pb_{1-y}Sn_y)_{1-x}Te_x$ from Lattice Parameter Measurements	R. F. Brebrick	J. Phys. Chem. Solids 32, 551 (1971)
3752A	Raman Study of the Semiconductor-Metal Transition in Ti_2O_3	A. Mooradian P. M. Raccah	Phys. Rev. B 3, 4253 (1971), DDC AD-729630
3753	Mean-Square Response of a Second-Order System to Nonstationary, Random Excitation	L. L. Bucciarelli C. Kuo	Trans. ASME, J. Appl. Mech., Series E 37, 612 (1970), DDC AD-716093
3755	A Digital Frequency Synthesizer	J. Tierney C. M. Rader B. Gold	IEEE Trans. Audio Electroacoust. AU-19, 48 (1971), DDC AD-729598
3757	General Relativity and the Orbit of Icarus	I. I. Shapiro W. B. Smith M. E. Ash S. Herrick	Astron. J. 76, 588 (1971)
3758	Critical Magnetic Properties and Exchange Interactions in EuO	N. Menyuk K. Dwight T. B. Reed	Phys. Rev. B 3, 1689 (1971), DDC AD-723746

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3760A	The Liquidus Line and Gibbs Free Energy of Formation of a Crystalline Compound $A_mB_n(c)$ – The Linear Temperature Approximation	R. F. Brebrick	Met. Trans. 2, 1657 (1971), DDC AD-729631
3761	Conceptual Phase Diagram and Its Application to the Spontaneous Magnetism of Several Pyrites	J. B. Goodenough	J. Solid State Chem. 3, 26 (1971), DDC AD-728185
3762	Angular Accuracy of Amplitude Monopulse Off-Boresight Radar	H. Berger	Proc. IEEE 59, 411 (1971), DDC AD-729566
3765	Raman Scattering in $CsMnF_3$	S. R. Chinn	Phys. Rev. B 3, 121 (1971), DDC AD-722903
3766	Self-Induced Thermal Lens Effect in CCl_4 in the Presence of Beam Motion	R. J. Hull P. L. Kelley R. L. Carman	Appl. Phys. Letters 17, 539 (1970), DDC AD-720653
3767	Structure and Properties of the High and Low Pressure Forms of $SrIrO_3$	J. M. Longo J. A. Kafalas R. J. Arnott	J. Solid State Chem. 3, 174 (1971), DDC AD-729572
3768	Analysis of Solid Teflon Pulsed Plasma Thruster	R. J. Vondra K. Thomassen A. Solbes	J. Spacecraft 7, 1402 (1970), DDC AD-721054
3770	A Theory of Collision Dominated Electron Density Fluctuations in a Plasma with Applications to Incoherent Scattering	T. Hagfors R. A. Brockelman	Phys. Fluids 14, 1143 (1971), DDC AD-729567
3771	Effect of Porosity on the Ferrimagnetic Resonance Linewidth	G. F. Dionne	Mater. Res. Bull. 5, 939 (1970), DDC AD-716094
3772	Polaron Zeeman Effect of Shallow Donors in CdTe	D. R. Cohn D. M. Larsen B. Lax	Solid State Commun. 8, 1707 (1970)
3773	Even-Parity Levels of Donors in Si	W. H. Kleiner W. E. Krag	Phys. Rev. Letters 25, 1490 (1970), DDC AD-720647
3774	Comment on "Tunable Spin-Flip Laser and Infrared Spectroscopy"	E. D. Hinkley	Phys. Rev. A 3, 833 (1971), DDC AD-721055
3777	Perturbation Theory for the Bound Polaron	D. M. Larsen	J. Phys. C 3, L185 (1970)
3779	Comparison of Low-Energy Proton Damage in Ion-Implanted and Diffused Silicon Solar Cells	A. G. Stanley	Proc. IEEE (Letters) 59, 321 (1971), DDC AD-728186

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3782	Type Conversion and n-p Junction Formation in $Hg_{1-x}Cd_xTe$ Produced by Proton Bombardment	A. G. Foyt T. C. Harman J. P. Donnelly	Appl. Phys. Letters 18, 321 (1971), DDC AD-729605
3784	Data Adaptive Spectral Analysis Methods	R. T. Lacoss	Geophysics 36, 661 (1971)
3785	Rapid Scanning Microscope for Light Probing and Infrared Mapping	R. J. Phelan, Jr. N. L. DeMeo, Jr.	Appl. Opt. 10, 858 (1971), DDC AD-729606
3787	Polarization Modulated Magnetoreflectance in EuSe and EuTe	C. R. Pidgeon J. Feinleib T. B. Reed	Solid State Commun. 8, 1711 (1970)
3788	Field-Dependent Central-Cell Corrections in GaAs by Laser Spectroscopy	H. R. Fetterman D. M. Larsen G. E. Stillman P. E. Tannenwald J. Waldman	Phys. Rev. Letters 26, 975 (1971), DDC AD-729607
3789	Identification of Exciton-Neutral Donor Complexes in the Photoluminescence of High Purity GaAs	J. A. Rossi C. M. Wolfe G. E. Stillman J. O. Dimmock	Solid State Commun. 8, 2021 (1970), DDC AD-722904
3790	User Program Measurement in a Time-Shared Environment	A. G. Nemeth P. D. Rovner	Commun. ACM 14, 661 (1971)
3791	Theory of Electron-Surface-Plasmons Interactions in Tunneling, Low-Energy-Electron Diffraction, and Photoemission	K. L. Ngai E. N. Economou	Phys. Rev. B 4, 2132 (1971)
3794	Propagation Phenomena Affecting Satellite Communication Systems Operating in the Centimeter and Millimeter Wavelength Bands	R. K. Crane	Proc. IEEE 59, 173 (1971), DDC AD-728187
3795	The Fermi Surface and Optical Properties of Potassium	G. Dresselhaus A. R. Wilson C-Y. Young	Solid State Commun. 8, 2125 (1970), DDC AD-728188
3796	Acceptor Luminescence in High-Purity n-Type GaAs	J. A. Rossi C. M. Wolfe J. O. Dimmock	Phys. Rev. Letters 25, 1614 (1970), DDC AD-720646
3797	Conductivity Studies in Europium Oxide	M. R. Oliver J. O. Dimmock A. L. McWhorter T. B. Reed	Accepted Phys. Rev. B
3798	A Pulsed Electric Thruster for Satellite Control	R. Vondra K. Thomassen A. Solbes	Proc. IEEE 59, 271 (1971), DDC AD-728189

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3799	Continuous Stimulated Spin-Flip Raman Scattering in InSb	A. Mooradian S. R. J. Brueck F. A. Blum	Appl. Phys. Letters 17, 481 (1970), DDC AD-722924
3800	Interband Magnetoreflection of $Hg_{1-x}Cd_xTe$	S. H. Groves T. C. Harman C. R. Pidgeon	Solid State Commun. 9, 451 (1971), DDC AD-729574
3801	A Variable-Coverage Satellite Antenna System	A. R. Dion L. J. Ricardi	Proc. IEEE 59, 252 (1971), DDC AD-728190
3802	Molecular Field and Exchange Constants of Gd^{3+}-Substituted Ferrimagnetic Garnets	G. F. Dionne	J. Appl. Phys. 42, 2142 (1971), DDC AD-729608
3804	Effects of Short-Range Interactions on Electron-Charge Ordering and Lattice Distortions in the Localized State	R. A. Bari	Phys. Rev. B 3, 2662 (1971), DDC AD-728191
3805	Temperature Field and Geophysical Effects of a Downgoing Slab	M. N. Toksöz J. W. Minear B. R. Julian	J. Geophys. Res. 76, 1113 (1971)
3806	Temporal and Spatial Gain in Stimulated Light Scattering	N. M. Kroll P. L. Kelley	Phys. Rev. A 4, 763 (1971)
3810	Satellite Communications to Mobile Platforms	I. L. Lebow K. L. Jordan, Jr. P. R. Drouilhet, Jr.	Proc. IEEE 59, 139 (1971), DDC AD-728192
3811	A Wide Dynamic Range Photometer for Film Densitometry	D. G. Kocher	J. SMPTE 80, 481 (1971)
3812	Two-Magnon Raman Scattering and Exchange Interactions in Antiferromagnetic $KNiF_3$ and K_2NiF_4 and Ferrimagnetic $RbNiF_3$	S. R. Chinn H. J. Zeiger J. R. O'Connor	Phys. Rev. B 3, 1709 (1971), DDC AD-723795
3813	n-p Junction Photovoltaic Detectors in PbTe Produced by Proton Bombardment	J. P. Donnelly T. C. Harman A. G. Foyt	Appl. Phys. Letters 18, 259 (1971), DDC AD-728193
3814	Absence of Hartree-Fock Behavior in Hubbard's Simple Decoupling Solution of Correlated Narrow-Energy-Band-Model	R. A. Bari T. A. Kaplan	Phys. Letters A 33A, 400 (1970), DDC AD-721051
3816	Semiconductor-Metal Transition in Ti_2O_3	H. J. Zeiger T. A. Kaplan P. M. Raccah	Phys. Rev. Letters 26, 1328 (1971), DDC AD-729576
3818	A High Temperature Study of Native Defects in ZnTe	F. T. J. Smith	J. Phys. Chem. Solids 32, 2201 (1971)

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3819	Toroid Corner Chamfering as a Method of Improving the Figure of Merit of Latching Ferrite Phasers	W. J. Ince D. H. Temme F. G. Willwerth	IEEE Trans. Microwave Theory Tech. MTT-19, 563 (1971), DDC AD-729577
3821	Dctection of Interfering Rayleigh Waves at LASA	J. Capon J. F. Evernden	Bull. Seismol. Soc. Am. 61, 807 (1971)
3823	A High-Yield Photolithographic Technique for Surface Wave Devices	H. I. Smith F. J. Bachner N. Efremow	J. Electrochem. Soc. 118, 821 (1971), DDC AD-729609
3824	Predictive Coding in a Homomorphic Vocoder	C. J. Weinstein A. V. Oppenheim	IEEE Trans. Audio Electroacoust. AU-19, 243 (1971)
3827	MSTRIP (Parameters of Microstrip)	T. G. Bryant J. A. Weiss	IEEE Trans. Microwave Theory Tech. MTT-19, 418 (1971), DDC AD-729578
3830	Simultaneous Observation of Proton Precipitation and Auroral Radar Echoes	T. Hagfors R. G. Johnson R. A. Power	J. Geophys. Res. 76, 6093 (1971)
3831	Anomalously High "Mobility" in Semiconductors	C. M. Wolfe G. E. Stillman	Appl. Phys. Letters 18, 205 (1971), DDC AD-723764
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3843	Transmission Diffraction Grating Attenuator for Analysis of High Power Laser Beam Quality	L. C. Marquet	Appl. Opt. 10, 960 (1971), DDC AD-729610
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932	Electrons and Holes in Semiconductors	H. J. Zeiger	Chap. 15 in The Molecular Designing of Materials and Devices, A. R. von Hippel, Ed. (M.I.T. Press, Cambridge, 1965)

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2047	Coherent Programming in the Lincoln Reckoner	R. A. Wiesen D. B. Yntema J. W. Forgie A. N. Stowe	Interactive Systems for Experimental Applied Mathematics (Academic Press, New York, 1968)
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2183	Interband Magnetoreflection of Gray Tin	S. H. Groves C. R. Pidgeon A. W. Ewald R. J. Wagner	Proc. Ninth Int'l. Conf. Physics of Semiconductors, Moscow, July 1968
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DOCUMENT CONTROL DATA – R&D

(Security classification of title, body of abstract and indexing annotation must be entered when the overall report is classified)

1. ORIGINATING ACTIVITY *(Corporate author)* Lincoln Laboratory, M.I.T.	2a. REPORT SECURITY CLASSIFICATION Unclassified 2b. GROUP None
3. REPORT TITLE Unclassified Publications of Lincoln Laboratory – Volume 3	
4. DESCRIPTIVE NOTES *(Type of report and inclusive dates)* Bibliography, 15 September 1969 to 15 September 1971	
5. AUTHOR(S) *(Last name, first name, initial)* Publications Office	
6. REPORT DATE 15 September 1971	7a. TOTAL NO. OF PAGES 88 7b. NO. OF REFS None
8a. CONTRACT OR GRANT NO. F19628-70-C-0230 b. PROJECT NO. None c. d.	9a. ORIGINATOR'S REPORT NUMBER(S) None 9b. OTHER REPORT NO(S) *(Any other numbers that may be assigned this report)* ESD-TR-71-249
10. AVAILABILITY/LIMITATION NOTICES Approved for public release; distribution unlimited.	
11. SUPPLEMENTARY NOTES None	12. SPONSORING MILITARY ACTIVITY Air Force Systems Command, USAF

13. ABSTRACT

Volume 3 of Unclassified Publications of Lincoln Laboratory lists reports published from 15 September 1969 to 15 September 1971, as well as updated information on earlier publications.

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14. KEY WORDS

Bibliography