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**PUBLICATIONS
PRESENTATIONS
AND PATENTS**



1964

UNITED STATES ARMY ELECTRONICS LABORATORIES

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PUBLICATIONS AND PRESENTATIONS
JANUARY 1964 THROUGH DECEMBER 1964

1. "PULSE RADIATION RELIABILITY OF PASSIVE ELECTRONIC PARTS"
LASCARO, C. P., SCHLOSSER, W., PRESENTED AT THE TENTH
NATIONAL SYMPOSIUM ON RELIABILITY AND QUALITY CONTROL
WASHINGTON, D. C., 7 - 9 JANUARY 1964 AND PUBLISHED IN
THE PROCEEDINGS.
2. "COHERENCE OF LIGHT AND ITS RELATION TO THE PROPERTIES OF
LASER BEAMS" - POULTNEY, S. K.. PRESENTED AT WORCESTER
POLYTECHNIC INSTITUTE, WORCESTER, MASSACHUSETTS, 17
JANUARY 1964.
3. "MILLIMETER WAVE TECHNIQUES" - LIPETZ, N., PRESENTED AT
IEEE, MICROWAVE THEORY AND TECHNIQUES (PTG-MTT), LONG
ISLAND, NEW YORK, 21 JANUARY 1964.
4. "THE PRODUCTION AND INTERACTION OF A LASER BEAM IN THE
QUANTUM MOLECULE ANALYSIS" - POULTNEY, S. K., PRESENTED
AT THE AMERICAN PHYSICAL SOCIETY MEETING, NEW YORK,
25 JANUARY 1964.
5. "VARIATIONAL PROPERTY OF FREE-ENERGY PERTURBATION THEORY"
FALK, H., PUBLISHED IN PHYSICAL REVIEW LETTERS, 27 JANUARY
1964.
6. "THE CONTRIBUTION OF AEROSOL SCATTERING TO THE TOTAL SCAT-
TERING IN TURBID NATURAL ATMOSPHERE" - FENN, R. W., PRE-
SENTED AT THE 44TH ANNUAL MEETING OF THE AMERICAN METEORO-
LOGICAL SOCIETY, LOS ANGELES, CALIFORNIA, 29 - 31 JANUARY
1964.
7. "THE HOT DRY PRESSED SILVER CHLORIDE CATHODE FOR LIQUID
AMMONIA SYSTEMS" - ALMERINI, A., PRESENTED AT THE 6TH
SYMPOSIUM ON AMMONIA BATTERIES, UNIVERSITY OF CALIFORNIA,
BERKELEY, CALIFORNIA, 30 - 31 JANUARY 1964.
8. "GROWTH AND PROPERTIES OF SINGLE CRYSTALS OF HEXAGONAL FER-
RITES" - SAVAGE, R. O., TAUBER, A., PUBLISHED IN THE JOURNAL
OF THE AMERICAN CERAMIC SOCIETY, JANUARY 1964.

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9. "AUTOMATIC SCENE DISSECTOR AND BRIGHTNESS MODULATOR FOR CAMERA EXPOSURE CONTROL" - ORLANDO, C., PUBLISHED IN PHOTOGRAPHIC SCIENCE AND ENGINEERING, JANUARY - FEBRUARY 1964.
10. "THE SPINNING REFLECTOR TECHNIQUE FOR RUBY LASER PULSE CONTROL" - BENSON, R. C., MIRARCHI, M. R., PUBLISHED IN IEEE TRANSACTIONS ON MILITARY ELECTRONICS, JANUARY 1964.
11. "FAR-INFRARED SPECTRUM OF POLYPROPYLENE, HIGH-DENSITY POLYETHYLENE, AND QUARTZ-CRYSTAL PLATES" - MCKNIGHT, R. V., MOLLER, Y. D., PUBLISHED IN THE JOURNAL OF THE OPTICAL SOCIETY OF AMERICA, JANUARY 1964.
12. "BIBLIOGRAPHY ON OPTICAL MASERS AND RELATED SUBJECTS PART II" - POULTNEY, S. K., PUBLISHED IN SOLID/STATE/DESIGN, JANUARY 1964.
13. "IONOSPHERIC OSCILLATIONS FOLLOWING A NUCLEAR EXPLOSION" - DANIELS, F. B. (WEBB, H. D. UNIV OF ILLINOIS), PUBLISHED IN THE JOURNAL OF GEOPHYSICAL RESEARCH, 1 FEBRUARY 1964.
14. "ULTRA-LOW-DRAIN LOCAL OSCILLATORS AND MIXERS FOR S-, C-, X-, AND KU-BAND USE" - SCHARMANN, L. E., PRESENTED AT THE 1964 NATIONAL WINTER CONVENTION ON MILITARY ELECTRONICS, LOS ANGELES, CALIFORNIA, 6 FEBRUARY 1964.
15. "SOLID STATE LASER MATERIALS" - KATZMAN, M., PRESENTED AT THE GOLDEN GATE METALS CONFERENCE, SAN FRANCISCO, CALIFORNIA, 14 FEBRUARY 1964.
16. "THE RELATIONSHIP BETWEEN THE ELECTRON MEAN FREE PATH AND THE TRANSITION TEMPERATURE FOR HIGHLY PURIFIED AND DOPED COLUMBIUM" - GAULE, G. K., BRESLIN, J. T., ROSS, R. L., PASTORE, J. R., FINNEGAN, J. J., PRESENTED AT AIME MEETING, NEW YORK CITY, 17-20 FEBRUARY 1964.

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17. "THERMAL CONDUCTIVITY OF COMPRESSIBLE POROUS MATERIALS" - MCMASTER, D. G., PRESENTED AT THE 49TH ANNUAL MEETING OF THE TECHNICAL ASSOCIATION OF PULP AND PAPER INDUSTRY, NEW YORK, 23 - 27 FEBRUARY 1964.
18. "INDEXING OF TETRAGONAL AND HEXAGONAL X-RAY POWDER PHOTOGRAPHS WITH THE AID OF A SMALL COMPUTER" - LEFKER, R., PUBLISHED IN ANALYTICAL CHEMISTRY, FEBRUARY 1964.
19. "SOLUTIONS OF SYSTEMS OF PERIODIC DIFFERENTIAL EQUATIONS" - KOTIN, L., PUBLISHED IN THE JOURNAL OF MATHEMATICAL ANALYSIS AND APPLICATION, FEBRUARY 1964.
20. "SCHWINGKRYSTALLE FÜR STIEBSCHALTUNGEN (CRYSTAL FOR FILTER CIRCUITS)" - BECHMANN, R., PUBLISHED IN ARCHIV DER ELEKTROTECHNISCHEN ÜBERTRAGUNG, FEBRUARY 1964.
21. "VARIATIONAL TREATMENT OF THE HEISENBERG ANTIFERROMAGNET" - FALK, H., PUBLISHED IN PHYSICAL REVIEW, 2 MARCH 1964.
22. "IMPROVEMENT OF SENSOR RESPONSE BY AN ANALOG TECHNIQUE" - GROTE, H., PRESENTED AT THE FIFTH CONFERENCE ON APPLIED METEOROLOGY, UNDER THE AUSPICES OF THE AMERICAN METEOROLOGICAL SOCIETY, ATLANTIC CITY, NEW JERSEY, 2 - 6 MARCH 1964.
23. "THE MEASUREMENT OF WIND SHEAR" - BARR, W., PRESENTED AT THE FIFTH CONFERENCE ON APPLIED METEOROLOGY, UNDER THE AUSPICES OF THE AMERICAN METEOROLOGICAL SOCIETY, ATLANTIC CITY, NEW JERSEY, 2 - 6 MARCH 1964.
24. "STUDY OF METEOROLOGICAL TECHNIQUES FOR SOUND RANGING, PART I" - BELLUCCI, R., PRESENTED AT THE FIFTH CONFERENCE ON APPLIED METEOROLOGY, UNDER THE AUSPICES OF THE AMERICAN METEOROLOGICAL SOCIETY, ATLANTIC CITY, NEW JERSEY, 2 - 6 MARCH 1964.
25. "REPRESENTATIVENESS OF LOW-LEVEL WINDS" - BARICHIVICH, A., PRESENTED AT THE FIFTH CONFERENCE ON APPLIED METEOROLOGY, UNDER THE AUSPICES OF THE AMERICAN METEOROLOGICAL SOCIETY, ATLANTIC CITY, NEW JERSEY, 2 - 6 MARCH 1964.

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26. "APPLICATION OF INFRARED RADIOMETERS TO METEOROLOGY" - WEICKMANN, H., COMBS, A., MADER, C., PRESENTED AT THE FIFTH CONFERENCE ON APPLIED METEOROLOGY, UNDER THE AUSPICES OF THE AMERICAN METEOROLOGICAL SOCIETY, ATLANTIC CITY, NEW JERSEY, 2 - 6 MARCH 1964.
27. "SOME CASE STUDIES OF WIND AND DENSITY CHANGES IN THE VICINITY OF FRONTS" - LOWENTHAL, M., PRESENTED AT THE FIFTH CONFERENCE ON APPLIED METEOROLOGY, UNDER THE AUSPICES OF THE AMERICAN METEOROLOGICAL SOCIETY, ATLANTIC CITY, NEW JERSEY, 2 - 6 MARCH 1964.
28. "MECHANISMS OF LASER OPERATION" - JACOBS, H., PRESENTED AT THE DIRECTED ENERGY BEAM CONFERENCE, U. S. ARMY COMBAT DEVELOPMENT COMMAND, FORT BELVOIR, VIRGINIA, 4 - 6 MARCH 1964.
29. "A REALISTIC APPRAISAL OF WEATHER CONTROL" - WEICKMANN, H., PRESENTED AT THE LOCAL CHAPTER, AMERICAN METEOROLOGICAL SOCIETY MEETING, CORVALLIS, OREGON, 12 MARCH 1964 AND PUBLISHED IN THE JOURNAL OF APPLIED MATHEMATICS AND PHYSICS, BIRKHAUSER VERLAG BASEL, SWITZERLAND, MARCH 1964.
30. "LASER APPLICATIONS IN SURVEILLANCE AND COMMUNICATIONS" - MIRARCHI, M., GREEN, R., CLARKE, A., PRESENTED AT THE DIRECTED ENERGY BEAM CONFERENCE, U. S. ARMY COMBAT DEVELOPMENT COMMAND, FORT BELVOIR, VIRGINIA, 19 MARCH 1964.
31. "A GROUP OF LORENTZ TRANSFORMATIONS" - BISER, E., PRESENTED AT IER SEMINAR, EXPLORATORY RESEARCH DIVISION S, EVANS AREA, USAEL, 19 MARCH 1964.
32. "THEME OF JUNIOR SCIENCE SYMPOSIUM"- FIELD, N. J., PRESENTED AT THE 2ND ANNUAL JUNIOR SCIENCE SYMPOSIUM, FORT MONMOUTH, NEW JERSEY, 20 MARCH 1964 AND PUBLISHED IN TRANSACTIONS OF 1964 JR SCIENCE SYMPOSIUM.

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33. "A HIGH SPEED NEGATIVE RESISTANCE COMPOUNDED PCM ENCODER" - SELBER, F., PRESENTED AT IEEE CONVENTION, NEW YORK, 23 MARCH 1964 AND PUBLISHED IN THE PROCEEDINGS.
34. "DESIGN OF THE VOICE PORTION OF THE SYNCOM GROUND STATION" - FELDMAN, N., TRIPP, G., PRESENTED AT IEEE CONVENTION, NEW YORK, 23 MARCH 1964 AND PUBLISHED IN THE PROCEEDINGS.
35. "BORON THERMISTORS AS SENSORS FOR THERMAL NEUTRONS" - GAULE, G. K., ROSS, R. L., (BLOOM, J. L. OF AEC, WASHINGTON), PRESENTED AT THE AMERICAN PHYSICAL SOCIETY MEETING, PHILADELPHIA, PENNSYLVANIA, 23 - 26 MARCH 1964.
36. "INDUCTANCE METHOD FOR THE STUDY OF POLYMORPHIC TRANSITIONS AT HIGH PRESSURES" - GIARDINI, A. A., POINDEXTER, E. H., SAMARA, G. ., PRESENTED AT THE AMERICAN PHYSICAL SOCIETY MEETING, PHILADELPHIA, PENNSYLVANIA, 23 - 26 MARCH 1964.
37. "DYNAMIC POLARIZATION IN ASPHALT SOLUTIONS AT 75 GAUSS" - POINDEXTER, E. H., PRESENTED AT THE AMERICAN PHYSICAL SOCIETY MEETING, PHILADELPHIA, PENNSYLVANIA, 23 - 26 MARCH 1964.
38. "PRESSURE DEPENDENCE OF FERROELECTRIC PROPERTIES OF ROCHELLE SALT" - SAMARA, G. A., PRESENTED AT THE AMERICAN PHYSICAL SOCIETY MEETING, PHILADELPHIA, PENNSYLVANIA, 23 - 26 MARCH 1964.
39. "DOUBLE RESONANCE OF INVERTED TWO-LEVEL SYSTEM" - SENITZKY, I. R., PRESENTED AT THE AMERICAN PHYSICAL SOCIETY MEETING, PHILADELPHIA, PENNSYLVANIA, 23 - 26 MARCH 1964.
40. "PROJECTION PHOTOLITHOGRAPHIC TECHNIQUES FOR USE IN FABRICATION OF MICROCIRCUITS" - GLENDINNING, W. B., PRESENTED AT THE IEEE CONVENTION, NEW YORK, 24 MARCH 1964.

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41. "REMOTE VIDEO SURVEILLANCE VIA A NEW MICROWAVE CONCEPT" - LACY, R. E., SHARP, C. E., PRESENTED AT U. S. ARMY LIMITED WAR LABORATORY, ABERDEEN PROVING GROUND, MARYLAND, 24 - 25 MARCH 1964.
42. "THEORETICAL ASPECTS OF CARBON SEEDING" - FENN, R. W., PRESENTED AT THE NATIONAL CONFERENCE ON THE PHYSICS AND DYNAMICS OF CLOUDS, CHICAGO, ILLINOIS, 24 - 26 MARCH 1964.
43. "ELECTROLUMINESCENT RESPONSE TO PULSE EXCITATION" - STEIN, I. H., PRESENTED AT THE IEEE CONVENTION, NEW YORK, 25 MARCH 1964.
44. "THE SQUAD RADIO EXPONENTIAL HORN AND DRIVER" - MORRIS, D. S., (BRINCKEROFF, D.E. OF GENERAL MOTORS CORP), PRESENTED AT THE IEEE CONVENTION, NEW YORK, 25 MARCH 1964.
45. "DIURNAL VARIATION OF IONOSPHERIC ELECTRON CONTENT OBTAINED FROM DOPPLER SLOPES OF SIMULTANEOUS SATELLITE SIGNALS" - ARENDT, P. R., SOICHER, H., PRESENTED AT THE IEEE CONVENTION, NEW YORK, 26 MARCH 1964 AND PUBLISHED IN THE PROCEEDINGS.
46. "FLUORESCENCE OF Dy^{3+} IN CaF_2 " - RABBINER, N., PUBLISHED IN PHYSICAL REVIEW, 30 MARCH 1964.
47. "NEW BULK EFFECT MICROWAVE DEVICES" - MATTHEI, W. G., PRESENTED AT THE FLORIDA WEST COAST CHAPTER OF PTM GTT (IEEE), CLEARWATER, FLORIDA, 31 MARCH 1964.
48. "NEW HEXAGONAL FERRITE, ESTABLISHING A SECOND STRUCTURAL SERIES" - KOHN, J. S., ECKART, D. W., PUBLISHED IN THE JOURNAL OF APPLIED PHYSICS, MARCH 1964.
49. "PRECISE PHASE AND AMPLITUDE MEASUREMENTS ON VLF SIGNALS PROPAGATED THROUGH THE ARCTIC ZONE" - REDER, F. H., (ABOM. C. J. - EUROPE), WINKLER, G.M.R., PUBLISHED IN RADIO SCIENCE JOURNAL OF RESEARCH NBS/USNC-URSI, MARCH 1964.

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50. "IMPROVEMENT OF THE FERROMAGNETIC RESONANCE LINEWIDTH OF SINGLE-CRYSTAL ZNY ($\text{Ba}_2\text{Zn}_2\text{Fe}_{12}\text{O}_{22}$) BY A NEW GROWTH TECHNIQUE" - TAUBER, A., DIXON, S., SAVAGE, R. O., PUBLISHED IN THE JOURNAL OF APPLIED PHYSICS, MARCH 1964.
51. "NEUTRON DIFFRACTION INVESTIGATION OF A GADOLINIUM SINGLE CRYSTAL" - WILL, G. (NATHANS, R., BROOKHAVEN NATL LAB, NY - ALPERIN, J. A. OF USN ORD LABS, MD AND BROOKHAVEN NATL LAB, NY), PUBLISHED IN THE JOURNAL OF APPLIED PHYSICS, MARCH 1964.
52. "SOME ASPECTS OF BEAM WAVEGUIDES FOR LONG DISTANCE TRANSMISSION AT OPTICAL FREQUENCIES" - GOUBAU, G., CHRISTIAN, J. R., PUBLISHED IN IEEE TRANSACTIONS ON MICROWAVE THEORY AND TECHNIQUES, MARCH 1964.
53. "SEMICONDUCTOR SWITCHING AND LIMITING USING 3-DB SHORT-SLOT (HYBRID) COUPLERS" - HIGGINS, V. J., PUBLISHED IN IEEE TRANSACTIONS ON MICROWAVE THEORY AND TECHNIQUES, MARCH 1964.
54. "REGULAR AND IRREGULAR SPIKING IN A MULTIMODE SPHERICAL RUBY LASER" - KATZMAN, M., STROZYK, J. W., PUBLISHED IN THE JOURNAL OF APPLIED PHYSICS, MARCH 1964.
55. "FIVE-LAYER OPTICAL MASER AMPLIFICATION" - JACOBS, H., HOLMES, D., BRAND, F.A., HATKIN, L., PUBLISHED IN IEEE TRANSACTIONS ON MICROWAVE THEORY AND TECHNIQUES, MARCH 1964.
56. "FINE-GRAINED FERRITES. III. $\text{Ni}_{1-x}\text{Co}_x\text{Fe}_2\text{O}_4$. HIGH-POWER MICROWAVE AND RF PROPERTIES" - MALINOFSKY, W.W., BABBITT, R. W., PUBLISHED IN THE JOURNAL OF APPLIED PHYSICS, MARCH 1964.
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58. "PLOTING TABLE WITH GRID PLATE FOR READING MODULATION TRANSFER FACTORS FROM MICRODENSITOMETER RECORDINGS" - LEISTNER, K., PUBLISHED IN PHOTOGRAPHIC SCIENCE AND ENGINEERING, MARCH - APRIL 1964.
59. "CRYSTALLOGRAPHIC IMPLICATIONS OF EPR IN NEUTRON-IR-RADIATED DIAMOND" - (DENNING, R. M. UNIV OF MICHIGAN), POINDEXTER, E. H., PUBLISHED IN AMERICAN MINERALOGIST, MARCH-APRIL 1964.
60. "INTERFEROMETRIC MEASUREMENTS (MICHELSON) OF RAPID PHASE CHANGES IN THE VISIBLE AND NEAR INFRARED USING A LASER LIGHT SOURCE" - BUSER, R.G., KAINZ, J. J., PRESENTED AT THE 5TH SYMPOSIUM OF THE ENGINEERING ASPECTS OF MAGNETOHYDRODYNAMICS, MASSACHUSETTS INSTITUTE OF TECHNOLOGY, CAMBRIDGE, MASS., 2 APRIL 1964.
61. "LASER PULSE SHAPING TECHNIQUES" - KATZMAN, M., STROZYK, J. W., PRESENTED AT THE HIGH POWER LASER TECHNOLOGY MEETING, REDSTONE ARSENAL, HUNTSVILLE, ALABAMA, 7 - 8 APRIL 1964.
62. "CORRELATION OF LASER THRESHOLD WITH THE OPTICAL QUALITY OF RUBY" - KELLINGTON, C.M., KATZMAN, M., PRESENTED AT THE HIGH POWER LASER TECHNOLOGY MEETING, REDSTONE ARSENAL, HUNTSVILLE, ALABAMA, 7 - 8 APRIL 1964.
63. "PENETRATION AIDS" - GAROFF, K., SALVANO, D., PRESENTED BEFORE THE DOD COMMITTEE ON PENETRATION AIDS, EVANS AREA, 10 APRIL 1964.
64. "INTEGRATED CIRCUIT DEVICES" - MEINDL, J. D., PRESENTED AT THE MONMOUTH CHAPTER OF IEEE, LITTLE SILVER, NEW JERSEY, 15 APRIL 1964.
65. "RADAR MEASUREMENTS OF LUNAR SLOPES AT 151 MC" - DANIELS, F.B., PRESENTED AT URSI SPRING MEETING, WASHINGTON, D.C. 15 - 16 APRIL 1964.

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66. "HOT PRESSED BORON NITRIDE" - DIVITA, S. (SMITH & LUPFER OF RUTGERS UNIV) - PRESENTED AT THE 66TH ANNUAL TECHNICAL MEETING OF THE AMERICAN CERAMIC SOCIETY, CHICAGO, ILLINOIS, 19 - 22 APRIL 1964.
67. "DIVITRIFIED BARIUM TITANATE CERAMICS" - DIVITA, S. (ULRICH OF NASA & SMOKE OF RUTGERS), PRESENTED AT THE 66TH ANNUAL TECHNICAL MEETING OF THE AMERICAN CERAMIC SOCIETY, CHICAGO, ILLINOIS, 19 - 22 APRIL 1964.
68. "PREREACTIONED RAW MATERIALS" - DIVITA, S. (SMOKE OF RUTGERS), PRESENTED AT THE 66TH ANNUAL TECHNICAL MEETING OF THE AMERICAN CERAMIC SOCIETY, CHICAGO, ILLINOIS, 19 - 22 APRIL 1964.
69. "LANTHANUM ALUMINUM - SILICATE DIELECTRICS" - DIVITA, S. (PETETTI & SMOKE OF RUTGERS) - PRESENTED AT THE 66TH ANNUAL TECHNICAL MEETING OF THE AMERICAN CERAMIC SOCIETY, CHICAGO, ILLINOIS, 19 - 22 APRIL 1964.
70. "THE STATE OF THE ART OF INTEGRATED CIRCUITS" - BRAMBLE, A., WAGNER, L., PRESENTED AT AFCEA-USAECOM CONFERENCE, FORT MONMOUTH, NEW JERSEY, 21 - 22 APRIL 1964.
71. "COHERENCE OPTICS AND THE MEASUREMENT OF THE DEGREE OF COHERENCE OF SOURCE" - POULTNEY, S. K., PRESENTED AT THE UNIVERSITY OF MARYLAND, COLLEGE PARK, MARYLAND, 22 APRIL 1964.
72. "PROGRESS IN MICROELECTRONICS" - KUBLIN, V. J., PRESENTED AT THE AFCEA/ECOM SYMPOSIUM, USAEL, FORT MONMOUTH, NEW JERSEY, 22 APRIL 1964.
73. "PULSE MODULATION OF AN ELECTRON INJECTION LASER TRANSMISSION SYSTEM" - SCHIEL, E. J., BULLWINKEL, E.C., GAMMARINO, R.R., ARMATA, J. F., WEBB, R. E., PRESENTED AT ECOM ADVISORY COUNCIL "IN-HOUSE" PRESENTATION AT USAEL, 23 APRIL 1964.

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74. "NEW ASPECTS OF SECONDARY BREAKDOWN IN TRANSISTORS" - REICH, B., PUBLISHED IN SOLID/STATE/DESIGN, APRIL 1964.
75. "BULK RELIABILITY EFFECTS IN SEMICONDUCTOR DEVICES; CURRENT CROWDING IN TRANSISTORS" - REICH, B., HAKIM, E.B., PUBLISHED IN SEMICONDUCTOR PRODUCTS, APRIL 1964.
76. "RESONATOR INFLUENCE ON TEMPORAL CHARACTER OF LASER OUTPUT" - KATZMAN, M., STROZYK, J. W., PUBLISHED IN THE PROCEEDINGS OF IEEE, APRIL 1964.
77. "ANOMALOUS ABSORPTION IN RUBY" - BRAND, F. A., JACOBS, H. WEITZ, S., LO CASCIO, C (NOVICK, G. MONMOUTH COLLEGE), PUBLISHED IN THE PROCEEDINGS OF IEEE, APRIL 1964.
78. "MICROWAVE INTERACTION WITH A SEMICONDUCTOR POST" - (HOLMES, D.A. CARNEGIE INST OF TECH), FEUCHT, D., JACOBS, H., PUBLISHED IN THE SOLID STATE ELECTRONICS, PERGAMON PRESS- GREAT BRITAIN, APRIL 1964.
79. "PIEZOELECTRIC-FREQUENCY CONTROL" - BECHMANN, R., PRESENTED AT THE 18TH ANNUAL FREQUENCY CONTROL SYMPOSIUM, ATLANTIC CITY, NEW JERSEY. 4 - 6 MAY 1964.
80. "COMPARISON OF VARIOUS METHODS USED FOR DETERMINATION OF QUARTZ CRYSTAL PARAMETERS IN THE FREQUENCY RANGE 1 - 30 MC" - PRIEBE, F. K., BALLATO, A. D., PRESENTED AT THE 18TH ANNUAL FREQUENCY CONTROL SYMPOSIUM, ATLANTIC CITY, NEW JERSEY. 4 - 6 MAY 1964.
81. "DESIGN CONSIDERATION FOR CRYSTAL IMPEDANCE METERS" - SHIBLA, C. L., PRESENTED AT THE 18TH ANNUAL FREQUENCY CONTROL SYMPOSIUM, ATLANTIC CITY, NEW JERSEY. 4 - 6 MAY 1964.
82. "RELIABILITY OF QUARTZ CRYSTAL UNITS" - STANLEY, J. M., MULVIHILL, P. E., PRESENTED AT THE 18TH ANNUAL FREQUENCY CONTROL SYMPOSIUM, ATLANTIC CITY, NEW JERSEY, 4 - 6 MAY 1964.

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83. "HYDROGEN MASER WORK AT USAEL" - ANDRESEN, H. G., BICKART, C., PRESENTED AT THE 18TH ANNUAL FREQUENCY CONTROL SYMPOSIUM. ATLANTIC CITY, NEW JERSEY, 4 - 6 MAY 1964.
84. "LIMITATIONS OF HIGH POWER WAVEGUIDE TRANSMISSION" - GOUBAU, G., PRESENTED AT THE ENERGY COMMISSION AND CONTROL SYMPOSIUM, CLEARWATER, FLORIDA, 4 - 6 MAY 1964.
85. "A MONOMOLECULAR LUBRICATING FILM FOR CONNECTOR CONTACTS" - SPERGEL, J., GODWIN, E., PRESENTED AT THE INTERNATIONAL CONFERENCE ON ELECTRICAL CONTACTS, GRAZ, AUSTRIA, 5 MAY 1964.
86. "FREQUENCY AND TIMING CONTROL REQUIREMENTS FOR FUTURE MILITARY COMMUNICATION EQUIPMENT" - BALTAS, M., PRESENTED AT THE 18TH ANNUAL FREQUENCY CONTROL SYMPOSIUM, ATLANTIC CITY, NEW JERSEY, 5 MAY 1965.
87. "EXPERIMENTS WITH A SYMMETRICAL GRADIENT-GRID THYRATRON" - CREEDON, J. E., PRESENTED AT THE 8TH SYMPOSIUM ON HYDROGEN THYRATRONS AND MODULATORS, FORT MONMOUTH, NEW JERSEY, 12 - 14 MAY 1964.
88. "HYDROGEN CLEANUP" - SCHNEIDER, S., CREEDON, J. E., YEAMENS, N. L., PRESENTED AT THE 8TH SYMPOSIUM ON HYDROGEN THYRATRONS AND MODULATORS, FORT MONMOUTH, NEW JERSEY, 12 - 14 MAY 1964.
89. "INDUCTANCE EFFECTS IN ENERGY DIVERTER CIRCUITS" - TAYLOR, G. W., SCHNEIDER, S., PRESENTED AT THE 8TH SYMPOSIUM ON HYDROGEN THYRATRONS AND MODULATORS, FORT MONMOUTH, NEW JERSEY, 12 - 14 MAY 1964.
90. "DISSIPATION IN QUANTUM MECHANICS. THE TWO-LEVEL SYSTEM II" - SENITZKY, I. R., PUBLISHED IN THE PHYSICAL REVIEW, 18 MAY 1964.
91. "HOW TO DESIGN MICROPOWER TRANSISTOR AMPLIFIERS: PART I" - MEINDL, J. D., GILSON, R., PITZALIS, O., KISS, W., PUBLISHED IN ELECTRONICS, 18 MAY 1964.

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92. "AC THERMIONIC CONVERTER OPERATIONS" - ANGELLO, J. P., PRESENTED AT THE 18TH ANNUAL POWER SOURCES CONFERENCE, ATLANTIC CITY, NEW JERSEY, 19 - 21 MAY 1964 AND PUBLISHED IN THE PROCEEDINGS.
93. "UNSYMMETRICAL LOW VOLTAGE CONVERTER" - DUDLEY, W. L., PRESENTED AT THE 18TH ANNUAL POWER SOURCES CONFERENCE, ATLANTIC CITY, NEW JERSEY, 19 - 21 MAY 1964 AND PUBLISHED IN THE PROCEEDINGS.
94. "STANDARD LINE OF SECONDARY BATTERIES" - SETTEMBRE, E. J. PRESENTED AT THE 18TH ANNUAL POWER SOURCES CONFERENCE, ATLANTIC CITY, NEW JERSEY, 19 - 21 MAY 1964 AND PUBLISHED IN THE PROCEEDINGS.
95. "A RELIABILITY PROGRAM FOR MISSILE BATTERIES" - WILBURN, N., PRESENTED AT THE 18TH ANNUAL POWER SOURCES CONFERENCE, ATLANTIC CITY, NEW JERSEY, 19 - 21 MAY 1964 AND PUBLISHED IN THE PROCEEDINGS.
96. "POWER SOURCE CONSIDERATIONS IN THE DESIGN OF SOLID STATE POWER SUPPLIES" - WRUBLEWSKI, F. J., PRESENTED AT THE 18TH ANNUAL POWER SOURCES CONFERENCE, ATLANTIC CITY, NEW JERSEY, 19 - 21 MAY 1964 AND PUBLISHED IN THE PROCEEDINGS.
97. "ADVANCES IN SOLID STATE MICROWAVE DEVICES" - MATTHEI, W. G., PRESENTED AT THE INTERNATIONAL SYMPOSIUM ON MICROWAVE THEORY AND TECHNIQUES, IEEE, KENNEDY INTERNATIONAL AIRPORT, NEW YORK, 19 - 21 MAY 1964.
98. "THE ROLE OF DIGITAL COMMUNICATIONS IN THE TACTICAL AREA" - HOLZER, J., PRESENTED AT THE ARMED FORCES COMMUNICATIONS ELECTRONICS ASSOCIATION CONFERENCE, WASHINGTON, D. C., 20 MAY 1964.
99. "VHF SURVEILLANCE DEVICES" - MOYNIHAN, R., PRESENTED AT THE UNIVERSITY OF MICHIGAN 10TH ANNUAL RADAR SYMPOSIUM, FORT MONMOUTH, NEW JERSEY, 26 MAY 1964.

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349. TR 2545 "PULSED NUCLEAR RADIATION EFFECTS ON RESISTORS AND CAPACITORS, SPRF IV" - LASCARO, C. P., SCHLOSSER, W., NEWBERG, J., DECEMBER 1964.

USAEL - SPONSORED SYMPOSIA

DURING THE YEAR 1964 THE FOLLOWING TECHNICAL SYMPOSIA WERE SPONSORED WHOLLY OR IN PART BY THE U. S. ARMY ELECTRONICS LABORATORIES:

- 2ND ANNUAL JR SCIENCE SYMPOSIUM**
HEXAGON, USAEL, FT MONMOUTH, N. J./MONMOUTH COLLEGE, WEST
LONG BRANCH, NEW JERSEY
20 - 21 MARCH 1964
- 18TH ANNUAL FREQUENCY CONTROL SYMPOSIUM**
SHELBOURNE HOTEL, ATLANTIC CITY, NEW JERSEY
4 - 6 MAY 1964
- 8TH ANNUAL SYMPOSIUM ON HYDROGEN THYRATRONS AND MODULATORS**
HEXAGON, USAEL, FORT MONMOUTH, NEW JERSEY
12 - 14 MAY 1964
- THIRD CONFERENCE ON TROPICAL METEOROLOGY**
EVANS AREA, USAEL, FORT MONMOUTH, NEW JERSEY
14 - 15 MAY 1964
- 18TH ANNUAL POWER SOURCES CONFERENCE**
SHELBOURNE HOTEL, ATLANTIC CITY, NEW JERSEY
19 - 21 MAY 1964
- 10TH ANNUAL RADAR SYMPOSIUM**
HEXAGON, USAEL, FORT MONMOUTH, NEW JERSEY
26 - 28 MAY 1964
- 10TH TRI-SERVICE CONFERENCE ON ELECTROMAGNETIC COMPATIBILITY**
CHICAGO, ILLINOIS
17 - 19 NOVEMBER 1964
- 13TH ANNUAL WIRE AND CABLE SYMPOSIUM**
SHELBOURNE HOTEL, ATLANTIC CITY, NEW JERSEY
2 - 4 DECEMBER 1964