

RSIC-U-66-35

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Hard copy (HC) 1.00

Microfiche (MF) .50

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AERONAUTICS

Documents

Martin 15168(Z)-MPR-Jul 66

Martin Company

FLUERIC D. C. ATTITUDE CONTROL SYSTEM
MONTHLY PROGRESS REPORT

W. J. Westerman, 31 Jul 66, 21p

DA-01-021-AMC-15168(Z)

Attitude control systems--Components--Development;
Directional control guidance; Fluid control systems;
Bistable circuits--Effectiveness; Delay circuits--
Effectiveness

NASA CR-521

Wichita State University

AN EXPERIMENTAL INVESTIGATION OF THE FLOW
FIELDS ABOUT DELTA AND DOUBLE-DELTA WINGS
AT LOW SPEEDS

William H. Wentz, Aug 66, 143p

NGR-17-003-003

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Lewis Research Center

BLADE ELEMENT PERFORMANCE OF AXIAL-FLOW
PUMP ROTOR WITH BLADE-TIP DIFFUSION FACTOR
OF 0.66

Max J. Miller, Sept 66, 33p

NASA E-3138

ASTRONOMY AND ASTROPHYSICS

Books

QB475 K91

John Daniel Kraus, 1910-

RADIO ASTRONOMY

McGraw-Hill, 1966

Radio Astronomy

Documents

AFCLRL 65-422

California Institute of Technology

SOLAR SPECTROSCOPY AND SPECTRO-
HELIOGRAPHY CINEMATOGRAPHY - 15 Apr 65 -
14 Apr 66

Harold Zirin, 20 May 66, 5p

AF 19(628)-5082

Solar observations--Atmospheric effects--
Instrumentation--Optimization; Solar spectrum--
Observations; Spectroscopy; Motion picture cameras--
Applications; Motion pictures--Effectiveness

AFCLRL 66-518

Te Company

ROTATING-IMAGE OPTICAL SCANNER - Final
Report Jun 65 - May 66

P. S. Sugino, Aug 66, 78p

AF 19(628)-5181

Rotating mirror cameras--Configuration--

Applications--Fabrication--Effectiveness; Solar

eclipse--Optical measurements; Lunar eclipse--

Optical measurements; Optical measurement;

Optical images--Tracking; Mirrors--Applications--

Configuration; Sun--Optical measurement; Moon--

Optical measurement; Photomultipliers--Applications;

Prisms (Optics) --Applications; Optical scanning--

Parameters; Optical instruments--Design; Optical

scanning--Applications

Rand RM-5056

Rand Corporation

REDUCTION OF THE EQUATIONS OF RADIATIVE
TRANSFER FOR A PLANE-PARALLEL PLANETARY
ATMOSPHERE - Part II

Zdenek Sekera, Jul 66, 57p

AF 49(638)-1700

Radiative transfer--Mathematical analysis--Theory;
Planetary atmospheres--Conductivity--Reflective
effects; Rayleigh scattering; Electromagnetic waves--
Scattering--Reflection

SAO SR 210

Smithsonian Astrophysical Observatory

A STUDY OF FLARE STARS

Leonard H. Solomon, 12 May 66, 57p

NsG 87-60

Stars--Properties--Luminescence; Variable stars--
Properties--Tables--Luminescence--Observations--
Photographic analysis--Spectra

ATMOSPHERIC SCIENCES

Books

QC994.9 A852

P. D. Astapenko

ATMOSPHERIC PROCESSES IN THE HIGH LATITUDES
OF THE SOUTHERN HEMISPHERE

Jerusalem, Israel Program for Scientific Trans-
lations, 1964

Meteorology--Antarctic regions; Meteorology--
Southern Hemisphere; Atmosphere; Winds

Documents

AFCLRL 66-333

Oklahoma University

A CONSIDERATION OF SOME OF THE FACTORS,
AFFECTING ATMOSPHERIC COMPOSITION STATIC
STABILITY AND MOTION BETWEEN 20 AND 100 KM -
Final Scientific Rpt 1 Mar 65 - 31 Mar 66

V. S. Whitehead, Apr 66, 80p

AF 19(628)-4767

Atmosphere--Composition--Turbulence--Density--
Stability; Atmospheric motion; Wind--Velocity--
Turbulence; Coriolis effects; Ozone--Density;
Oxygen--Density; Stratosphere--Density--Stability;
Mesosphere--Density--Stability

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AFCRL 66-346

Air Force Cambridge Research Laboratories
HORIZONTAL AND VERTICAL DISTRIBUTIONS OF
ATMOSPHERIC PRESSURE, 30 TO 90 KILOMETERS
Arthur J. Kantor, May 66, 24p

Atmosphere--Pressure distribution; Altitude--
Meteorological effects; Latitude--Meteorological
effects; Diurnal variations--Calculations;
Climatology; Atmospheric data--Graphs; AF Surveys
in Geophysics 181

AFCRL 66-359

Pennsylvania State University
AN IONOSPHERIC ESTIMATE OF NITRIC OXIDE
CONCENTRATION IN THE D-REGION

A. P. Mitra, 15 Feb 66, 21p
AF 19(628)-4014

D-layer--Ionization--Electron density; Nitric oxide--
Density; Atmosphere--Composition; PSU/ IR SR 265

Army Natick Labs TR 66-7-ES

Army Natick Laboratories
YUMA WINTER MICROCLIMATE

Howard L. Ohman, Jun 66, 33p

Temperature--Arizona; Wind--Arizona--Velocities--
Direction; Climate--Arizona--Statistical analysis--
Desert regions; Diurnal variations; Elevations--
Climatic factors; Climatology; Army Natick Labs ES-
24

BEHAVIORAL AND SOCIAL SCIENCES

Books

HB171 K44

John Maynard Keynes, 1883-1946
THE GENERAL THEORY OF EMPLOYMENT,
INTEREST, AND MONEY
Harcourt, Brace & World, n. d.
Economics; Money; Interest and usury

PC779 D554

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Q141.G7 C953

James Gerald Crowther, 1899-
STATESMEN OF SCIENCE: HENRY BROUGHAM,
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THE PRINCE CONSORT, THE SEVENTH DUKE OF
DEVONSHIRE, ALEXANDER STRANGE, RICHARD
BURDON HALDANE, HENRY THOMAS TIZARD AND
FREDERICK ALEXANDER LINDEMANN
London, Cresset Press, 1965
Scientists - Great Britain; Science and state -
Great Britain

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HRRO MISC 9

George Washington University
WORK PROGRAM - Fiscal Year 1967
RESEARCH AND DEVELOPMENT IN TRAINING,
MOTIVATION, AND LEADERSHIP
30 Jun 66, 127p

DA-44-188-ARO-2

Military personnel--Training; Training--
Optimization--Methods--Effectiveness;
Training devices--Requirements; Military
training--Optimization; Research program
administration--HRRO; Training--Program
plan

HRRO TR 66-7

George Washington University
PROJECTED MANPOWER NEEDS, AND PROJECTED
TRAINING REQUIREMENTS FOR OPERATORS AND
USERS OF FUTURE STINFO SYSTEMS Jun
C. Dennis Fink, Jun 66, 40p

DA-44-188-ARO-2

Information indexing--Personal requirements;
Documentation--Personnel requirements;
Information networks--Personnel requirements;
Libraries--Personnel requirements; STINFO;
Operations research; STINTRAC; Personnel--
Requirements--Training; Training--Requirements--
Problem areas; Operators (Personnel)--Require-
ments--Training; Information centers--Personnel
requirements; Consumer--Training

HRRO TR 66-9

George Washington University
AN EXPERIMENTAL EVALUATION OF A DRIVER
SIMULATOR FOR SAFETY TRAINING
James A. McKnight, Jun 66, 32p
DA-44-188-ARO-2

Motor vehicle operators--Safety measures;
Simulators--Effectiveness; Training devices--
Effectiveness; Passenger vehicles--Operation--
Human engineering; Operators (Personnel)--
Safety measures--Training; Motor vehicle operators--
Training

IDEP Conf -4

Grumman Aircraft Engineering Corporation
INTERSERVICE DATA EXCHANGE PROGRAM-
Proceeding of the Fourth National Conference
22 Apr 66, 140p
Conferences--IDEP; Data exchange--Program plan--
Requirements; Information retrieval

MIT/ SSMTG 1841(34)-QPR-61

Massachusetts Institute of Technology - Solid State
and Molecular Theory Group
SOLID-STATE AND MOLECULAR THEORY GROUP-
Quarterly Progress Report Number 61
15 Jul 66, 272p
NOmr 1841(34) NSF G-24908 NSF-GP-3241

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Solid state physics--Bibliography; MIT/ SSMTG--
History; Molecular physics--Bibliography;
Scientific personnel--MIT/ SSMTG; Indexes--MIT/
SSMTG

RTD Index-TOD-1966

Research and Technology Division. Air Force
Systems Command

TECHNICAL OBJECTIVE DOCUMENT (TOD) RELEASE
PROGRAM

1966, 20p

Indexes --RTD--TOD; Air force research--Require-
ments--Indexes

BIOLOGICAL AND MEDICAL SCIENCES

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QP601 W231

Charles Walter

ENZYME KINETICS; OPEN AND CLOSED SYSTEMS

Ronald Press Co., 1966

Enzymes

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DASA 1778

Lovelace Foundation for Medical Education and Research
PATHOLOGY OF DIRECT AIR-BLAST INJURY

Thomas L. Chiffelle, Apr 66, 60p

DA-49-146-XZ-055

Pathology; Blast--Pathological effects--Physiological
effects; Overpressure--Physiological effects; Humans--
Blast effects; Air blast--Physiological effects

Douglas Paper 3871

Douglas Aircraft

MODIFICATIONS OF THE EFFECTS OF RECUMBENCY
UPON PHYSIOLOGICAL FUNCTIONS BY PERIODIC
CENTRIFUGATION

J. W. Nyberg, 21 Apr 66, 19p

AF 04(695)-679

Personnel--Acceleration effects; Bioastronautics;
Centrifuges--Capabilities--Effectiveness--Per-
formance--Test results--Physiological factors;
Motion sickness--Physiological effects; Space biology--
Test methods--Test results; Stress (Physiology)

EA TR 4003

Edgewood Arsenal

EXPERIMENTAL STUDY OF SPHERE AND SHELL-
FRAGMENT WOUNDS OF SOFT TISSUES - May 62 -
Oct 65

Janice A. Mendelson, Aug 66, 68p

Wound ballistics--Pathological effects--Physiological
effects; Wounds & injuries--Analysis--Therapy;
Fragmentation ammunition--Damage assessment;
Tissues (Biology)-- Model test results

NASA CR-570

Baylor University

PHYSIOLOGIC OBSERVATIONS ON RACE CAR
DRIVERS

Vincent P. Collins, Sep 66, 114p

NsG-730

NASA SP-5041

Westinghouse Electric

CARDIOVASCULAR MONITORING

William J. Jones, 1966, 43p

Physiological sensors--Performance; Biochemistry--
Theory; Data transmission systems; Medical
research--Data reduction; Data storage systems;
Signals--Modulation--Amplification; Electrodes--
Application; Cardiovascular system--Monitoring
equipment--Observations

CHEMISTRY

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QD77 V872

Paul Von Stein

ORGANIC REAGENTS IN INORGANIC ANALYSIS

Chemical Publishing Co., Inc., 1942

Chemical tests and reagents; Chemistry, Analytic-
Qualitative; Chemistry, Inorganic

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Zvi Enrico Jolles

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Academic Press, 1966

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QD181.S S382

Louis Clarence Schroeter, 1929-

SULFUR DIOXIDE: APPLICATIONS IN FOODS,
BEVERAGES, AND PHARMACEUTICALS

Pergamon Press, 1966

Sulphur dioxide --Bibliography

QD281.P6 S989

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SYMPOSIUM ON NEW ASPECTS OF ELASTOMER
STEREOSPECIFIC POLYMERIZATION

American Chemical Society, 1966

Elastomers--Addresses, essays, lectures;

Polymers and polymerization--Addresses, essays,
lectures; Organometallic compounds--Addresses,
essays, lectures

TP157 E57

Engineering Equipment Users Association Panel M/ 23

PNEUMATIC SYSTEMS OF HANDLING INCLUDING
FLUIDIZATION

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Chemical engineering--Apparatus and supplies;
Pneumatic-tube transportation; Fluidization

TP185 I61
V. Kamenik
INTERNATIONAL CONGRESS ON CHEMICAL
ENGINEERING, EQUIPMENT DESIGN AND AUTOMATION
House of the Czechoslovak Academy of Sciences
Chemical Engineering--Addresses, essays, lectures

TP242 S912
Werner Strauss
INDUSTRIAL GAS CLEANING; THE PRINCIPLES AND
PRACTICE OF THE CONTROL OF GASEOUS AND
PARTICULATE EMISSIONS
Pergamon Press, 1966
Gases--Cleaning--Bibliography

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Aerojet General
INVESTIGATION OF HYDRIDES - Final May 63 Sep 65
A. F. Graefe, Sep 65, 75p
N0w 65-0660c
Transition elements--Metallurgical effects; Metal
hydrides--Solubility--Oxidation--Preparation;
Hydrogenation--Calculations; Grignard reagents--
Hydrogenation; Flow reactors--Description--
Performance; Powder metals--X-ray analysis;
X-ray diffraction analysis--Tables; Chemical Bonding;
Chemical reactors--Performance; Synthesis
(Chemistry); Metal halides--Hydrogenation; Metals--
Hydrogenation--Transition; Hydrogen--Sources

Army Natick Labs TR 66-54-CM
Colorado University
THE SYNTHESIS OF SPECIAL FLUORINE - CONTAINING
MONOMERS
J. D. Park, Jan 66, 104p
DA-19-129-QM-1926
Grignard reagents--Chemical reactions; Cyclopentenes--
Chemical reactions; Cyclobutenes--Chemical reactions;
Fluorine compounds--Synthesis--Testing; Monomers--
Synthesis--Pyrolysis; Elastomers--Elasticity;
Ethylenes--Synthesis; Synthesis (Chemistry); Fluorine
compounds--Evaluation; Elastomers--Thermal stability;
Grignard reactions--Analysis

EARTH SCIENCES AND OCEANOGRAPHY

Documents

SAO SR 216
Smithsonian Astrophysical Observatory
ON THE GRADIENT LINE OF THE EARTH'S ZONAL
GRAVITATIONAL POTENTIAL
Walter Kohnlein, 1 Jul 66, 18p
NsG 87-60
Earth--Gravity; Differential equations

ELECTRONICS AND ELECTRICAL ENGINEERING

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TA174 D621
John R. Dixon
DESIGN ENGINEERING; INVENTIVENESS, ANALYSIS,
AND DECISION MAKING
McGraw-Hill, 1966
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AFCL 66-496
Florence University, Italy
EXPERIMENTAL VERIFICATION OF FOX AND LI
PATTERNS IN OPEN RESONATORS
P. F. Checcacci, Feb 66, 13p
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Microwave resonators--Model test results--
Electrical properties; X-band; Mirrors--Alignment

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IIT Research Institute
SPACE ENCOUNTER MODELING STUDY (COMPUTER
PROGRAM) - Final Report
Michael Liveright, Jun 66, 62p
AF 08(635)-4203
Space warfare--Mathematical models; Computer
programs--Space warfare

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ELECTRONICS Third Quarterly Progress Report
A. F. Krueger, 15 Apr 66, 23p
DA-28-043-AMC-01467(E)
Miniature electronic equipment--Effects of radiation;
TREE; Capacitors--Effects of radiation--Irradiation;
Thin film devices--Effects of radiation; Micro-
electronics; Electronic equipment--Effects of
radiation; Electronic components--Effects of radiation;
Dielectrics--Effects of radiation

Boeing AS 1842
Boeing Company
THERMOCHEMICAL EXPANSION AND COMBUSTION
OF A GENERAL GAS MIXTURE (TEXACO)
Frank Lamar, 9 Apr 64, 133p
TEXACO
Computer programs--Thermodynamics--Aero-
dynamics; Gases--Thermodynamic properties--Data
processing systems--Aerodynamic properties--Data
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processing systems

Douglas Paper 3791
Douglas Aircraft
THE AUTOMATION OF ELECTRONIC PACKAGING
M. N. Weindling, 23 Jun 66, 7p
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processing systems--Applications; Computer
programs--Development; Integrated circuits--
Packaging

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Varian Associates

INVESTIGATION OF ELECTRONIC INTERACTION WITH OPTICAL RESONATORS FOR MICROWAVE GENERATION AND AMPLIFICATION - Final Rpt

Howard Jory, Jul 66, 39p

DA-28-043-AMC-00480(E)

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TRANSVERSE-WAVE HIGH-POWER TUBE - 4th

Quarterly Report 1 Jan - 31 Mar 66

Burton C. Crumly, 31 Mar 66, 23p

DA-28-043-AMC-01268(E)

High power devices--Development; Electron guns--Capabilities; TWT--Research and Development--Design--Performance; Broadband transitions--Future concepts; Circuits--Test results; Waveguide windows--Fabrication; Power amplifiers--Design--Development

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Raytheon Company

LONG-LIFE COLD CATHODE STUDIES FOR CROSSED-FIELD TUBES - Progress Report - 15 Jan - 15 Apr 66

L. Lesensky, Aug 66, 52p

DA-28-043-AMC-01698(E)

Cold cathode emitter--Life expectancy--Materials; Molybdenum--Electrical properties; Raytheon PT-1184; DEFENDER; Electron bombardment; Ion bombardment; Secondary emission; Crossed field amplifiers--Performance; Aluminum oxides--Electrical properties; Molybdenum--Deposition; High power devices; Thin film--Degradation

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RESEARCH ON DISTRIBUTED FERRITES FOR CROSSED-FIELD MICROWAVE DEVICES - Quarterly Report 10 Feb-

9 May 66

W. A. Smith, Aug 66, 83p

DA-28-043-AMC-2032(E)

Ferrites--Electromagnetic properties; Crossed field amplifiers--Design--Materials--Performance--State-of-the-art; Radiofrequency--Distribution; Ferrite devices--Characteristics; Gain; L-band; X-band; Dielectrics; Perturbation theory; Ferrites--Thermal effects--Bonding; Bandwidth; Gain; Ferromagnetic materials; CW devices--Applications; Helices--Applications; Radiofrequency--Attenuation; High power devices--Stability; Microwave amplifiers--materials

GE PIR 8194-038

General Electric

RADIANT INTERCHANGE FACTOR PROGRAM

J. Adams, 5 Mar 63, 11p

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Computer programs--Radiant interchange factor

Ion Physics 00394(E)-QPR-6

Ion Physics Corporation

HIGH VOLTAGE BREAKDOWN STUDY

A. S. Denholm, 15 May 66, 36p

DA 28-043-AMC-00394(E)

Vacuum apparatus--Electrical properties; Electric properties--Vacuum effects; Voltage breakdown--Vacuum effects; Vacuum tubes--Voltage changes--Development; Electrodes--Fabrication

NASA TN-D-3574

Lewis Research Center

EFFECTS OF RUBIDIUM VAPOR ON BAYARDALPERT

IONIZATION GAGES AT PRESSURES LESS THAN 1×10^{-6} TORR

Robert L. Summers, Sep 66, 8p

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Lewis Research Center

DESIGN EQUATIONS OF SWEEPED FREQUENCY SPECTRUM ANALYZERS FOR IN-FLIGHT VIBRATION ANALYSIS

Edward F. Miller, Sep 66, 32p

NASA E-3299

NYU TR 400-130

New York University

INVESTIGATION OF THE ERROR-ERASURE CHANNEL-

Fourth Scientific Report

Stephen Dobrow, Mar 66, 52p

AF 19(628)-4321

BEEC; Communication theory; Decoding--Problem areas; Sequences--Applications; Programming (Computers); BSC--Data processing systems; Digital communication systems--Errors; AFCRL 66-336

Penn U/ MSEE TM 6134-2

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AN INVESTIGATION OF ERRORS OF A THIN FILM

DEVICE FOR PRECISE MICROWAVE POWER MEASUREMENT

Ping-Yao Chiu Tsao, Dec 64, 54p

DA-36-034-ORD-3693A

Rectangular waveguide--Materials; Thin films--Resistivity; Penn U/ MSEE 65-15; Thin film devices--Errors; Radiofrequency power--Measurement--Absorption; Thin films--Absorptive properties--Electrical factors--Thermal analysis; Rectangular waveguides--Fabrication

RADC TR-65-383

IIT Semiconductors

RELIABILITY PHYSICS STUDIES ON TRANSISTORS -

Interim Report

Walter Schroen, May 66, 88p

AF 30(602)-3605

P-N junctions--Surface conditions; Diodes (Semiconductors)--Voltage changes; IMIB; Transistors--Reliability--Test results--Surface conditions--Thermal (continued)

stability; Silicon--Surface properties; MOS--
Reliability; Reliability (Electronics); Voltage breakdown--
Reduction--Mathematical analysis

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Rome Air Development Center

ERROR PROBABILITY IN ENERGY DETECTION OF
GAUSSIAN SIGNALS THROUGH RC FILTERS

Progress Report Jul 65 - Dec 65

Alfred S. Kobos, Jul 66, 28p

Filters (Electromagnetic waves)--Errors--Math-
ematical analysis; Computer programs--Filters
(Electromagnetic waves); Radiofrequency filters--
Errors; Resistors--Accuracy; Signals--Filtering;
Band-pass filters; Low-pass filters; Signal-to-noise
ratio; Gaussian noise--Detection; Autocorrelation
functions; PSD; Statistical processes; Information
theory; Errors--Theory; Signals--Transmission--
Processing

RADC TR 66-190

Philco Corporation

ADAPTIVE MODELLING OF LIKLIHOOD CLASSIFICA-
TION-1 - Final Report 13 Jan 65 to 13 Jan 66

Laveen N. Kanal, Jun 66, 188p

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Adaptive networks--Development--Evaluation;
Maximum likelihood--Optimization--Classification;
Statistical analysis; Mathematical models; Pattern
recognition--Test methods; Random variables--
Applications

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Informatics, Inc.

DISPLAY ORIENTED COMPUTER USAGE SYSTEM

Interim Technical Report 1 Apr 65 - 1 Apr 66

Jun 66, 105p

AF 30(602)-3500

Programming languages--Test results; Man-machine
systems; DOCUS; FORTRAN; CODAP; DOL; Cathode
ray tubes; Computer programs--Operation;
Programming (Computers)--Human engineering;
Programming languages--Coding--Capabilities--
Control systems

RTI TRR-30

Research Triangle Institute

A SURVEY OF AVAILABLE INFORMATION RELATIVE
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G. V. Borgiotti, 31 Jul 66, 118p

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Dipole antennas--Numerical analysis; Periodic
structures--Wavelength; AROD 6030:1; Broadband
antennas--Design--State-of-the-art-survey; Log
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width; Spiral antennas--Modification

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GRADIENTS OF A SOLAR COLLECTOR IN ECLIPTIC
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Ronald L. Thomas, Sep 66, 29p

NASA E-3374

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AIRFRAME BEARINGS - Final Report 1 Feb 65 to

28 Feb 66

Clark S. Armstrong, May 66, 50p

AF 33(615)-2255

Antifriction bearings--Design--Fabrication--Materials;
LT-2--Thermal effects; Zircoa 1027--Thermal effects--
Expansion; High temperature materials--Evaluation;
Bearings--Test results--Design--Fabrication--
Materials--Friction--Fracture--Testing equipment--
Stresses--Load distribution--Life expectancy; Ball
bearings--Design--Fabrication--Materials

IITRI-U6002-42

IIT Research Institute

DEVELOPMENT OF SPACE-STABLE THERMAL-
CONTROL COATINGS

G. A. Zerlaut, 11 Jul 66, 31p

NAS8-5379

Coatings--Environmental effects--Thermal properties;
Thermal protection systems; Temperature control;
Space vehicles--Temperature factors

ML TR-66-113

Materials Laboratory

LUBRICATION AS A PARAMETER IN THE EXTRUSION
OF METALS

I. Perlmutter, May 66, 24p

Copper--Extrusion; Steel--Extrusion; Lubricants--
Requirements--Effectiveness--Method--Requirements;
Glass--Applications; Friction--Measurement;
Refractory metals--Extrusion; Superalloys--Extrusion;
Extrusion--Parameters

NASA TN D-3409

Goddard Space Flight Center

MECHANICAL AND PHYSICAL PROPERTIES OF
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C. L. Staugaitis, Aug 66, 32p

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Lewis Research Center

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William J. Waters, Sep 66, 30p

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Thomas P. Herbell, Sep 66, 48p

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J. Richard Hall, Jul 66, 43p

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QA11 I61

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Eugene R. Daniels, Aug 66, 28p

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A. H. Jenkins, 16 May 66, 33p

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D. C. Drucker, Jun 66, 24p

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Harro G. Andresen, Jun 66, 29p

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Colorado University

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Gary Carmen Tisone, 10 Jun 66, 96p

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NASA CR-557

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NASA TN D-3354

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A VISUAL STUDY OF VELOCITY AND BUOYANCY EFFECTS ON BOILING NITROGEN

Robert J. Simoneau, Sep 66, 21p

NASA E-3120

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Dennis O. Allison, Aug 66, 40p

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Langley Research Center

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Mario A. Colaluca, Aug 66, 31p

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Donald H. Buckley, Sep 66, 13p

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John R. Howell, Sep 66, 29p

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ANALYSIS OF THE TRANSIENT FLOW OF HYDROGEN IN HEATED PASSAGES IN THE LAMINAR-TURBULENT TRANSITION REGION

Robert W. Leko, Sep 66, 22p

NASA E-3463

RADC TR-65-416

Raytheon Company

INVESTIGATION OF THOMSON SCATTERING FROM THE ELECTRONS IN A PLASMA Final Report

Edward Rolfe, Jun 66, 188p

AF 30(602)-3447

Lasers--Intensity--Wavelengths--Ionizing effects;

Plasma physics; Plasma diagnostics; Thomson

scattering; Re-entry measurements; Flames--

measurement; Light--Scattering; Plasma sheath--

Electron density; Electrons--Absorptive properties;

Electrons--Conductivity

RADC TR 65-425

St. Louis University

ELECTRONIC AND NUCLEAR PARAMAGNETISM AND

ENERGY EXCHANGE MECHANISMS - Annual Technical

Report (Sep 64 - Sep 65)

Sook Lee, Jun 66, 113p

AF 30(602)-2907

Electron spin resonance; Sodium chloride crystals--

Nuclear magnetic resonance; Solid state physics;

NMR spectroscopy--Theory--Model; Single crystals--

Structure; Color centers--Forming; Crystallization--

Resonance; Calcium fluoride--Resonance

RADC TR -65-426

Electro-Optical Systems

HIGH POWER LASER AMPLIFIER CHAIN TECHNIQUES-

Final Report

George L. Clark, Jun 66, 223p

AF 30(602)-3502

Optical pumping--Applications; Neodymium glass--

YAG--Optical properties; EOS 5550-Final; Amplifiers--

Design; Oscillators--Design--Performance; MOPA--

Theory--Configurations--Performance; Isolators--

Design; CW devices--Performance; Optical radar--

Development; Radar transmitters--Development;

LASERS--Frequency--Stability

RADC TR 65-429

General Electric Company

DISPERSIVE CHARACTERISTICS OF THE IONOSPHERE-

Interim Report No. 5, 1 Dec 64 - 30 Sep 65

Ross Chapman, Jun 66, 132p

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Loss factors--Sampling; Ionospheric disturbances--
Measurement; Electromagnetic waves--Propagation--
Polarization--Absorption; Atmospheric sounding;
Azimuth--Measurement; Phase detectors; Inter-
ferometers--Applications; Absorption coefficients;
Refractive index; Upper atmosphere--Data reduction;
Ionosphere--Reflective properties--Refractive
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RADC TR 65-535

Sperry Gyroscope

COHERENT OPTICAL ARRAY TECHNIQUES -

Interim - Second Quarterly

Jun 66, 58p

AF 30(602)-3744

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Feasibility; Neodymium glass--YAG--Optical
properties; Calcium tungstate--neodymium--Optical
properties; Mach-Zehnder interferometers--
Applications; Isolators--Design; Optical materials--
Properties; Sperry AB-1272-0053-2; Array radar;
LASER arrays; Amplifiers--Phase studies--
Configuration; CW devices--Performance; Oscillators--
Performance; Tungsten lamps--Source; Glass rods--
Fabrication; Gas LASERS; Mirrors--Fabrication;
MOPA--Performance; Faraday rotation; Phase
(Electronics); Preamplifiers; Amplifiers--Drivers

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National Bureau of Standards

POWER FLOW FROM A PLASMA HAVING COMPLES

ELECTROACOUSTIC WAVE IMPEDANCE

Robert L. Gallawa, Jun 66, 47p

Maxwell's equations--Applications; Hydrodynamics;
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Acoustic factors--Impedance; Acoustic waves--
Impedance; Plasma frequency--Measurement; Plasma--
Reflective effects--Wave transmission; Acoustic
impedance; Energy conversion; Waves--Interaction;
Sound--Propagation; Electrons--Collision; Neutrons--
Collision; Plasma physics

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THE THERMODYNAMICS OF THE ALUMINA/

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F. J. Krieger, Jun 66, 38p

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STUDY OF ECM ANTENNA OPTIMIZATION - Third

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DRAG REDUCTION CAUSED BY HIGH POLYMER

SOLUTIONS INJECTED INTO WATER FLOWING

AROUND CYLINDRICAL BODIES

C. N. Baronet, Jul 66, 24p

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Fluid flow--Applications; Dynamometer--Description--
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Application; Wave propagation; Communication theory;
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Injection

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G. J. Caras, 31 Mar 66, 53p
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