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UNIVERSITY OF CALIFORNIA

Radiation Laboratory

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LIST OF UNCLASSIFIED REPORTS RECEIVED IN THE UCRL INFORMATION
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January 19, 1954

Berkeley, California

LIST OF CODES FOR REPORT NUMBERS

ACCO	- American Cyanamid Co.	NAA	- North American Aviation, Inc.
AERE	- Atomic Energy Research Establishment, Harwell, England	NBS	- National Bureau of Standards
ANL	- Argonne National Lab.	NM	- Naval Medical Research Institute
ANP	- Aircraft Nuclear Propulsion Project	NRL	- Naval Research Lab.
APEX	- Project	NYO	- New York Operations Office
ASTIA	- Armed Services Technical Information Agency	ONRL	- Office of Naval Research, London
BMI	- Battelle Memorial Institute	ORNL	- Carbide and Carbon Chemicals Co. (ORNL)
BNL	- Brookhaven National Lab.	ORO	- Oak Ridge Operations Office
CO	- Chicago Operations Office	RMO	- Division of Raw Materials
CRC	- Chalk River Project, Canada	SEP	- Sylvania Electric Products, Inc.
CRE		SO	- Schenectady Operations Office
CRP		TEI(M)	- U. S. Geological Survey
CU	- Columbia University	TID	- Technical Information Service
DOW	- Dow Chemical Company	UCLA	- University of California Medical Research Lab.
DP	- du Pont, Wilmington	UR	- University of Rochester
FMPC	- Feed Materials Production Center at Fernald	USNRDL	- U. S. Naval Radiological Defense Lab.
GEL	- General Electric Co., General Engineering Lab.	WAPD	- Westinghouse Electric Corp., Atomic Power Division
HW	- Hanford Works, Richland	WASH	- Atomic Energy Commission, Washington
IDO	- Idaho Operations Office	Y	- Carbide and Carbon Chemicals Co. (Y-12 Plant)
ISC	- Iowa State College		
JENER	- Joint Establishment for Nuclear Energy Research, Norway		
K	- Carbide and Carbon Chemicals Co. (K-25 Plant)		
KAPL	- Knolls Atomic Power Lab.		
KLX	- Vitro Corp. of America		
LAMS	- Los Alamos Scientific Lab.		
LA			
LRL	- California Research and Development Co.		
LWS			
MIT	- Massachusetts Institute of Technology		
MLM	- Mound Laboratory		
MTA	- California Research and Development Co.		

The Technical Information Service assigns NP ("Non-Project") numbers to university research and development reports received from outside sources, e.g., government agencies, universities, industry and foreign countries.

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AEC-TR-1285	Double Fluorides of Uranium Hexa-fluoride	H. Martin A. Albers H. Dust	12/53
AEC-TR-2056	Theoretical and Experimental Study of the Kinetics of Gas Solid Reactions	J. Dunoyer	12/53
AERE-C/M-184	Notes on the Sixteenth Congress of the "Groupement pour l'Avancement des Methodes Spectrographiques" 24-26 June 1953, 9 bis Avenue d'Iena, Paris	A. Gillieson	8/13/53
AERE-C/R-1214	The Absorptiometric Determination of Traces of Copper in Purified Water	E. Jenkins P. Tumber C. Scott-Taggart	8/31/53
AERE-C/R-1231	Symposium on "Utilization of Radiation from Fission Products" held at Harwell on 23rd and 24th February 1953	G. Walton J. Wright	6/53
AERE-C/R-1236	The Analysis of Uranium-Titanium Alloys	G. Milner P. Phennah	9/23/53
AERE-C/R-1278	The Volumetric Determination of Aluminum in Non-Ferrous Alloys	G. Milner J. Woodhead	10/53
AERE-CE/R-910 (Rev. version of AERE-CE/R-600)	Liquid-Liquid Extraction - A Critical Survey of the Literature Dealing with the Mechanism of Transfer of Solutes Across Phase Boundaries with Special Reference to Liquid-Liquid Interfaces	J. Lewis	8/17/53
AERE-EL/R-1112	A Scaling Unit Employing Multi-Electrode Cold Cathode Tubes	K. Kandiah	3/16/53
AERE-EL/R-1252	A Versatile Transistor Circuit	E. Cooke-Yarborough	9/7/53
AERE-M/R-1247	Solid Metal -Liquid Metal Interaction Studies, Part I: The Surface Tension of Sodium	J. Taylor	9/53
AERE-T/M-92	The Calculation of the Spectrum of Neutrons at Points in a Semi Infinite Hydrogenous Medium, Whode Free Surface is Irradiated by Monoenergetic Neutrons Falling Normally onto it	J. Tait M. Biram	10/28/53

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ANL-5181	Proceedings of a Symposium on Large Scale Digital Computing Machines August 3-5, 1953	Argonne Nat'l. Lab.	
ASTIA-U- 32	Title Announcement Bulletin	Armed Serv. Tech. Info. Agency	12/2/53
ASTIA-U- 33	Title Announcement Bulletin	Armed Serv. Tech. Info. Agency	12/11/53.
CRM-482	Report on Fast Neutron Dosimetry	J. Dainty	5/17/50
CU-3-53- AT-dp-Ch. E	Temperature Fluctuations in Resis- tance Heating with Alternating Current	R. Houston	6/53
HE-150- 117	Results of Some Base Pressure Ex- periments at Intermediate Reynolds Numbers with M-2.84	L. Kavanau	10/22/53
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ISC-307	Orbital Electron Ejection in Large- Angle Scattering	M. Ebel J. Knipp	6/52
ISC-341	Some Studies on the Diffusion of Sodium in Sodium Tungsten Bronze	J. Smith G. Danielson H. Wilhelm	3/53
ISC-347	A Proportional Counter Spectrometer Study of the Beta-Decay of Radioactive S^{35} , Pm^{147} , Ni^{63} , and C^{14}	J. Mize D. Zaffarano	3/53
ISC-378	The Ferromagnetic Properties of the Rare Earth Metals	J. Elliott S. Legvold F. Spedding	6/53
ISC-403	Stability of Zirconium Oxide in Graphite Surroundings	D. Wilder E. Fitzsimmons	9/1/53

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MISC-1953-204	The Reaction of Potassium with Aluminum (III) Iodide in Liquid Ammonia Solution	L. Taylor J. Kleinberg E. Griswold	
MISC-1953-205	The f-Values of Special Lines Belonging to the $2\Sigma - 2\Pi$ Transition of OH	P. Dyne	11/53
MISC-1954-1	Autoradiography - Lectures presented as an advanced course of the Special Training Division. June 15-27, 1953	Oak Ridge Institute for Nuclear Studies	
MISC-1954-2	Bibliography of Translations from Russian Scientific and Technical Literature. List No. 2, November, 1953	Lib. of Congress, Scientific Translations Center	11/53
MIT-ELEC-TEC-Rpt. 250	Correlation Functions and Spectra of Music and Speech	I. Uygur	6/15/53
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NAA-SR-120	A Reversing Logarithmic DC Amplifier	R. Carter	8/26/53
NEPA-1559	Study of Effects of Turbulence Promoters on Heat Transfer Final Report	Armour Research Foundation	8/3/50
NEVIS-1	Scattering of 65 Mev Pions in Hydrogen	D. Bodansky A. Sachs J. Steinberger	11/53

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NM-005- 048.21.02	Infectivity and Gall Size in Tomato and Cucumber Seedlings Infected with Meloidogyne Incognita Var. Acrita (Root-Knot Nematode)	V. Dropkin	8/21/53
*NP-3716	Surface Hardening of Titanium with Metalloid Elements; Interim Technical Report No. 1; June 1 - November 30, 1951	F. Kisslinger G. Steven	
*NP-3761	Industrial Applications of Radioisotopes; A Selected Bibliography	J. Kohl	
*NP-3827	Electronic Concentration of Radioactive Ores with the Lapointe Picker Belt	C. Lapointe R. Wilmot	
*NP-3926	Research and Development Toward Improving Titanium-Aluminum Binary Alloys by the Addition of a Third Com- ponent; Interim Technical Report No. 1, September 1 - December 31, 1951	M. Hansen et al	
*NP-3997	The Quench Hardening of Titanium- Manganese Alloys	Y. Liu	
*NP-4004	The Determination of Thorium in Ores by the Column Method. II. The Colori- metric Estimation of Small Amounts of Thorium	R. Guest	

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*NP-4074	Nucleonics Applications; Metallurgical Applications of Autoradiography. I. A Literature Survey. II. Preliminary Experiments	S. Millman L. Foster	
*NP-4089	Interim Technical Report No. 2 (on) Surface Hardening of Titanium with Metalloid Elements (for) December 1, 1951 to May 31, 1952	R. Hanzel et al	
*NP-4119	(Twenty-Sixth) Progress Report (for) Period May 31, 1952 to August 31, 1952	Lab. for Nuclear Science, Mass. Inst. of Tech.	
*NP-4122	Effect of Diet Exposed to Capacitron Irradiation on the Growth and Fertility of the Albino Rat	E. DaCosta S. Levenson	
*NP-4145	Semi-Quantitative Spectrographic Analysis of Boron Content of Graphite and Carbon	D. Shugar	
*NP-4165	Information Bulletin No. T ⁴ (on) Equili- brium Diagrams of Titanium Alloy Systems	Metallurgical Advisory on Titanium	
*NP-4178	Spectrochemical Analysis of Titanium Metal and Alloys; Interim Report No. 2	J. Enns	
*NP-4182	The Determination of Aluminum Fluorophotometric Method	J. Zimmerman	
*NP-4201	Substituted Methanes. 13. Infrared Spectral Data and Assignments for Dibromodifluoromethane; Technical Report on Molecular Spectroscopy, Molecular Structure and Thermodynamics	C. Decker et al	

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*NP-4215	Studies of Fast Reactions Which Evolve Gases. The Reaction of Sodium-Potassium Alloy with Water in the Presence and Absence of Oxygen	M. Kilpatrick et al	
*NP-4222	On the Low Energy Mu-Mesons from Pi-Meson Decay	G. Fialho	
*NP-4251	Nineteenth Quarterly Report (on) Fundamental Research in Spectroscopy of Short Wave-Length X-Rays and Gamma-Rays (for) Period - Oct. 1 - Dec. 31, 1951	J. DuMond	
*NP-4264	National Defense Contractual Progress Report No. 6 (on) Ionization Chamber Insulating Material; Second Quarterly Report (for) October 15, 1951 - January 15, 1952	H. Nordlin et al	
*NP-4265	National Defense Contractual Progress Report No. 3 (on) Ionization Chamber Insulating Material; First Quarterly Report (for) July 15 - October 15, 1951	H. Nordlin et al	
*NP-4266	National Defense Contractual Progress Report No. 9 (on) Ionization Chamber Insulating Material; Third Quarterly Report (for) January 15 - April 15, 1952	H. Nordlin D. Keel	
*NP-4272	Quarterly Report No. 1 (on) Development of Chemical Systems Applicable to Production of the Army Tactical and Organizational Dosimeters	G. Taplin C. Douglas S. Sigolgg et al	
*NP-4300	Second Annual Report of the Work of the Bartol Research Foundation of the Franklin Institute	Bartol Research Foundation, Franklin Institute	

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*NP-4341	The Amperometric Determination of Sulphate	A. Hitchen	
*NP-4343	First Quarterly Report (on) Research Investigations Directed Toward Establishment of Methods for Quantitative Analysis of Raw and Processes Materials	M. Hasler J. Kemp	
*NP-4345	Progress Report No. 5 (on) A Study of Porous Media by Means of Flow Methods (for) July 1, 1952 - September 30, 1952	J. Ross G. Kraus	
*NP-4347	Interim Report (on) Study and Research of the Siliconizing of Titanium for Period July 1, 1952 through December 31, 1952	S. Kluz et al	
*NP-4350	Progress Report (for) October 1, 1951 - December 31, 1951 on a Study of Porous Media by Means of Flow Methods	J. Ross G. Kraus	
*NP-4353	(Progress Report on) High Energy Cosmic Ray Showers Under Thick Absorbers (for) September 1 to December 1, 1952	T. Stinchcomb	
*NP-4360	Substituted Methanes. 15. Infrared Spectral Data, Assignments, and Calculated Thermodynamic Properties for Fluorotrichloromethane; Technical Report on Molecular...	J. Zietlow et al	
*NP-4367	The Effect of Hydrogen on the Mechanical Properties of Titanium	G. Lenning C. Craighead R. Jaffee	
*NP-4369	The Density and Surface Tension of Liquid Fluorine Between 66° and 80°K	D. White et al	

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*NP-4384	Electronic Concentration of Ores with the Lapointe Picker Belt	C. Lapointe R. Wilmot	
*NP-4400	Non-Electronic Dose Rate Indicating Systems: Quarterly Progress Report (for) September 15 - December 15, 1952	M. Berry et al	
*NP-4401	Development of Photodosimeters of the "Dry Development" Type: Final Report (for) April 1, 1951 to December 1, 1952	D. Merrill	
*NP-4414	The Equilibrium Counter Assembly	G. Eichholz	
*NP-4417	Proceedings of the Titanium Symposium at Watertown Arsenal, Watertown, Massachusetts (held on) October 8, 1952	Metallurgical Advisory Committee on Titanium	
*NP-4419	The Crystal Structure of Zinc 8-Hydroxyquinolate Dihydrate	L. Merritt, Jr. et al	
*NP-4421	X-Ray Structure Determinations of some Compounds of Interest in Analytical Chemistry	L. Merritt, Jr.	
*NP-4433	Theory of Nuclear Reactions Involving Polarized Deuterons	W. Lakin L. Wolfenstein	
*NP-4434	Insulation; Interim Report Covering the Period July 1, 1951 to September 30, 1951	J. Steigman A. Copperman A. Bender et al	
*NP-4435	Surface Hardening of Titanium with Metalloid Elements; Interim Technical Report No. 3 (for) June 1, 1952 - November 30, 1952	R. Hanzel V. Pulsifer	
*NP-4439	Stress - Rupture and Corrosion Tests of Type 347 Stainless Steel in Molten Eutectic Lead - Bismuth Alloy; First Annual Report for the Period June 1, 1951 to May 31, 1952	F. Laxar	

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*NP-4443	Radiation Damage Study; Report No. 1 (for) April and May 1952	Sarah Mellon Scaife Rad. Lab. Univ. of Pittsburgh	
*NP-4451	Energy Distribution in Luminescence Spectra of Organic Compounds. Progress Report (for) September 1, 1952 to January 31, 1953	F. Germann	
*NP-4452	Flow Metering of Molten Lead-Bismuth at University of California, Berkeley, California	R. Seban W. Schrank D. Bartz	
*NP-4455	ORDVAC Manual (for) 1952	Univ. of Illinois	
*NP-4457	Use of 2, 2-Diquinolyl in the Colori- metric Determination of Copper in Minerals and Ores	R. Guest	
*NP-4460	Research Investigations Directed To- ward Establishment of Methods for Quantitative Spectrographic Analyses of Raw and Processed Materials: Second Quarterly Report...	J. Kemp	
*NP-4466	Electromagnetic Wave Propagation on Helical Conductors	S. Sensiper	
*NP-4471	Development and Evaluation of a Grease for -65° to +450° F. Quarterly Report (for) May 18 to August 18, 1952	C. Brannen E. Swakon	
*NP-4477	Liquidus Determinations of Polynary Magnesium Alloys; Final Status Report (for) December 1, 1949 - April 15, 1950	Magnesium Labs. Dow Chem. Co.	
*NP-4479	The Cathodic Polarization Associated with the Oxygen Electrode	E. Yeager R. Witherspoon et al	

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*NP-4491	Electrodeposition of Titanium; Progress Report (for) October 15 to December 15, 1952	Missouri Univ. School of Mines and Metallurgy	
*NP-4494	The Theory of Quantized Fields II.	J. Schwinger	
*NP-4496	Habit Plane Determination of Beta in Alpha Titanium; Final Report	P. Albert	
*NP-4497	Graphical Method for Obtaining Phase Shifts from the Experimental Data on Meson-Nucleon Scattering; Research and Development of Phenomena Relating to the Interactions of Particles...	J. Ashkin et al	
*NP-4498	Tensor Operators in Isotopic Spin Space; Research and Development of Phenomena Relating to the Interactions of Particles and of Radiation; Technical Report (for) January 1, 1952 to December 31, 1952	L. Wolfenstein	
*NP-4500	Coulomb Interference Effects in the Scattering of Mesons by Protons; Research and Development of Phenomena Relating to the Interactions of Particles and of Radiation;...	J. Ashkin et al	
*NP-4501	Boiling Heat Transfer Project Monthly Progress Report	G. Henry M. Raymond J. Walsh	

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*NP-4504	High Energy Nuclear Interactions in Lead and Light Elements	M. Kaplon D. Ritson W. Walker	
*NP-4505	The Effects of Geometry of Notch and Speed of Testing on the Fatigue Properties of Titanium	J. Romauldi E. D'Appolonia	
*NP-4506	The Plastic Deformation of Single Crystals of Aluminum; Summary Report	R. Johnson et al	
*NP-4507	Degenerate Perturbations	D. Kleinecke	
*NP-4511	Simulation and Computing Techniques, Part 2; Symposium 2 (held in) New York City, April 28 - May 2, 1952	Reeves Instrument Corporation	
*NP-4520	Neutron and Gammas Ray Shielding Research Progress Report (for) April 1, 1949	Mass. Inst. of Tech.	
*NP-4521	Study of Crystal Imperfections of Polycrystalline Materials, Part 3; Technical Report (for) July 1951 - March 1953	S. Weissmann D. Evans	
*NP-4526	The Quantum Mechanics of Collisions Between Diatomic Molecules	C. Curtiss	
*NP-4529	The Effects of Carbon, Phosphorous, and Alloy Contents on the Notched Bar Impact Properties of Quenched and Tempered Steels	H. Schwartzbart J. Sheehan	
*NP-4532	Production of Sound Ductile Joints in Molybdenum; Quarterly Progress Report (for) October 21, 1952 to January 20, 1952	M. Jacobson et al	

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*NP-4534	Radiation Damage Study; Report (for) June and July 1952	Sarah Mellon Scaife Rad. Lab.	
*NP-4542	Fourth Quarterly Progress Report (for) the Year 1952	Columbia Rad. Lab.	
*NP-4544	Stress Corrosion in Aircraft Alloys: Final Report	J. McAndrew et al	
*NP-4550	Seminar on Mathematical Aspects of Subsonic and Transonic Gas Dynamics	Institute of Mathematics and Mechanics, New York Univ.	
*NP-4591	A Thermodynamic Study of Some Metal Amine Coordination Compounds (Thesis)	G. McIntyre	
*NP-4592	Determination of the Mechanism of the Increase of Viscosity of Organosilicon Compounds at High Temperatures: Quarterly Progress Report (for) Decem- ber 23, 1952...	O. Senn et al	
*NP-4621	The Heat Conductivity, Viscosity, Specific Heat and Prandtl Numbers for Thirteen Gases	F. Keyes	
*NP-4622	Substituted Methanes. 17. Vibrational Spectra, Potential Constants, and Cal- culated Thermodynamic Properties of Diiodomethane; Technical Report...	F. Voelz F. Cleveland et al	
*NP-4643	Rate of Diffusion of Carbon in Alpha and in Beta Titanium as a Function of the Temperature and Concentration; Interim Technical Report (for) Period December 12, 1952 - March 11, 1953	E. Bucur et al	
*NP-4665	Tables of Dielectric Materials Volume IV	Lab. for Insulation Research, Mass. Inst. of Tech.	

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*NP-4679	The Cutting Characteristics of Titanium; Preliminary Report	L. Colwell W. Truckenmiller	
*NP-4680	Mechanical Properties of Machina- bility Program Work Materials	L. Colwell W. Truckenmiller	
*NP-4681	Effect of Side Rake Angle on Tool Life in Turning Titanium (High- Speed-Steel Tools)	L. Colwell	
*NP-4684	Power Hacksaw Operations on Titanium and Its Alloys	F. Sowa L. Colwell	
*NP-4685	Metallurgical Studies in the Sub- Microscopic Range (Thesis)	J. Radavich	
*NP-4698	Galling and Seizing Characteristics of Titanium and Titanium-Base Alloys	W. Leone	
*NP-4701	Scintillation Techniques Applied to Electron Energy Studies. Quarterly Progress Report (for) April 1, 1953 to June 30, 1953	E. Schillinger, Jr.	
*NP-4702	Quarterly Progress Report No. 9 (for) July 15, 1953	Solid-State and Molecular Theory Group, Mass. Inst. of Tech.	
*NP-4703	Fundamental Studies on Scintillation Phosphors	G. Burgwald L. Reiffel	
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*NP-4719	The Free Energy Change of Austenite-Pearlite Transformations; Annual Report (for) June 1, 1952 to June 1, 1953	G. Pound W. Hagel	
*NP-4720	Heats of Formation of Chromium (II) and Chromium (III) Iodides (for) Period January 1953 - July 1953	N. Gregory T. Burton	
*NP-4721	Description of a New Detector System for Luminescence in the Infrared; Energy Distribution in Luminescence Spectra of Organic Compounds	B. Witte I. Witte F. Germann	
*NP-4722	Low-Drain Audio Oscillator; Final Report on Task 1	D. Thomas et al	
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*NP-4767	Energy Transfer Processes in Reaction Kinetics	S. Benson et al	
*NP-4769	Heat Treatment, Structure, and Mechanical Properties of Titanium-Manganese Alloys; The Effect of Microstructure on the Mechanical Properties of Titanium Alloys	F. Holden H. Ogden R. Jaffee	
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*NP-4776	The Determination of Uranium by Reduction with Stannous Chloride	A. Main	
*NP-4779	Investigate Physical and Physico-Chemical Properties of Mixtures of Hydrocarbons and Fluorocarbons; Quarterly Progress Report (for) October 1, 1952 - January 2, 1953	R. Dunlap	
*NP-4784	The Effect of Temperature on the Lattice Dimensions of Magnesium and Magnesium Alloys; Quarterly Status Report 1	Magnesium Labs. Dow Chem. Co.	
*NP-4785	Fundamentals of How Alloying Ingredients Affect Properties of Magnesium	Magnesium Labs. Dow Chem. Co.	
*NP-4786	Fundamentals of How Alloying Ingredients affect Properties of Magnesium; Quarterly Status Report (for) December 1, 1950 to March 1, 1951	Magnesium Labs. Dow Chem. Co.	
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*NP-4788	Fundamentals of How Alloying Ingredients Affect the Properties of Magnesium	Metallurgical Labs. Dow Chemical Co.	
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*NP-4791	Research to Assay Rain and Surface Water for Natural Tritium Content; Quarterly Progress Report (for) Period June 1, 1953 through August 31, 1953	W. Libby	
*NP-4797	Color Centers and Trapped Charge in Alkali Halide Crystals (Thesis)	D. Dutton	
*NP-4802	The Contact Thermal Resistance Offered by the Welded Junctions Between a Round Duct and Its Encircling Stiffening Webs	C. Moore, Jr.	
*NP-4817	Continuation of the Study of Adsorption of Gases on Metal Surfaces Using the Radio-active Tracer Technique	J. Dillon, Jr. H. Farnsworth	
*NP-4819	The Determination of the Natural Frequencies of Special Beam Configurations. Studies in Applied Mathematics No. 5	L. Barrett C. Wylie, Jr.	
*NP-4821	Symposium on Vapor Deposition of Metals	J. Townsend	
*NP-4823	Quarterly Progress Report (for) February 1, 1953 to May 1, 1953; Microwave Spectrum and Molecular Structure of Trichloro Germans	P. Venkateswarlu R. Mockler W. Gordy M. Mizushima et al	
*NP-4824	Computation of Thermodynamic Properties of Gases From Spectra N ₂	L. Glatt J. Belzer H. Johnston	
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*NP-4837	Development of an Instrument for the Instantaneous Analysis of Gas Mixtures; Quarterly Progress Report (for) July 1, 1952 to September 30, 1952	Arkansas Univ.	
*NP-4840	Conference on Cryogenics, Schenectady, New York, October 6-7, 1952	Gen. Elec. Res. Lab.	
*NP-4841	Quarterly Progress Report (for) May 1, 1953 to August 1, 1953. (Consists of) Microwave Spectra and Structures of Methyl Mercury Chloride and Bromide	W. Bordy J. Sheridan et al	
*NP-4847	Electronic Structure of Solids. 1. The Energy Band Method	J. Slater	
*NP-4851	Propagation of an Electromagnetic Wave Along a Helix Surrounded by a Resistance Sheath	A. Tønning	
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