

UCRL 3000

UNCLASSIFIED

UNIVERSITY OF
CALIFORNIA

*Radiation
Laboratory*

TWO-WEEK LOAN COPY

*This is a Library Circulating Copy
which may be borrowed for two weeks.
For a personal retention copy, call
Tech. Info. Division, Ext. 5545*

BERKELEY, CALIFORNIA

DISCLAIMER

This document was prepared as an account of work sponsored by the United States Government. While this document is believed to contain correct information, neither the United States Government nor any agency thereof, nor the Regents of the University of California, nor any of their employees, makes any warranty, express or implied, or assumes any legal responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by its trade name, trademark, manufacturer, or otherwise, does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof, or the Regents of the University of California. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or any agency thereof or the Regents of the University of California.

INFORMATION DIVISION

UCRL-3000

Internal Distribution

UNCLASSIFIED

UNIVERSITY OF CALIFORNIA

Radiation Laboratory
Berkeley, California

Contract No. W-7405-eng-48

LIST OF UNCLASSIFIED REPORTS RECEIVED AND ISSUED IN THE UCRL
INFORMATION DIVISION DURING THE PERIOD MAY 1-15, 1955

May 17, 1955

Printed for the U. S. Atomic Energy Commission

LIST OF CODES FOR REPORT NUMBERS

ACCO -American Cyanamid Co.
AERE -Atomic Energy Research Establishment, Harwell, England
AFCRC -Air Force Cambridge Research Center
AMRL -Army Medical Research Lab., Fort Knox
ANL -Argonne National Lab.
ANP -Aircraft Nuclear Propulsion Project, Oak Ridge
APEX -General Electric Co., Aircraft Gas Turbine Div.
ASTIA -Armed Services Technical Information Agency
BM -Bureau of Mines
BM-II -Northwest Electrodevelopment Lab., Bureau of Mines,
Albany, Oregon
BMI -Battelle Memorial Institute
BNL -Brookhaven National Lab.
BRL -Ballistic Research Labs., Aberdeen Proving Grounds
CEA -Commissariat à l'Énergie Atomique, France
CEI, CRC, CRE, CRP, CRT and others
-Chalk River Project, Canada
CEPS -Commonwealth Edison Co.
CERN -European Council for Nuclear Research
CF -Oak Ridge National Lab., Central Files
CU -Columbia University
DC -General Electric Co., ANP Project
DOW -Dow Chemical Co.
DP -E. I. du Pont de Nemours and Co.
FMPC -National Lead Co. of Ohio
HW -Hanford Works, Richland, Wash.
ISC -Iowa State College
JENER -Jount 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
LA, LADC, LAMS
-Los Alamos Scientific Lab.
LRL, LWS
-California Research and Development Co.
MIT -Massachusetts Institute of Technology
MLM -Mound Lab.
Monograph
-Bell Telephone System
MTA -California Research and Development Co.
NAA -North American Aviation, Inc.
NBS -National Bureau of Standards
NM -Naval Medical Research Institute
NRL -Naval Research Lab.
ONRL -Office of Naval Research, London
ORNL -Carbide and Carbon Chemicals Co., Oak Ridge National Lab.
PR -Chalk River Project, Canada

SEP -Sylvania Electric Products, Inc.
TEI, TEM -U. S. Dept. of Interior, Geological Survey
TID -Technical Information Service, Oak Ridge
UCLA -Univ. of California at Los Angeles
UR -Univ. of Rochester
USNRDL -U. S. Naval Radiological Defense Lab.
WAPD -Westinghouse Electric Corp. , Atomic Power Division
Y -Carbide and Carbon Chemicals Co. , Y-12 Plant

Many prefixes used for research and development reports cover a number of installations. NP("Non-Project") numbers are assigned by the Technical Information Service at Oak Ridge to those reports which it receives from sources not under contract to the Atomic Energy Commission. The UCRL Information Division gives "Misc" numbers to any others received here that do not bear an identifying number. Many reports are grouped together under numbers corresponding to an AEC division or operations office. Some of these are as follows:

CO, COO -Chicago Operations Office
IDO -Idaho Operations Office
NYO, NYOO -New York Operations Office
ORO -Oak Ridge Operations Office
RMO -Raw Materials Division
WASH -Atomic Energy Commission, Washington

In our semimonthly "List of Reports Received" the originating installation will be placed in the author column whenever the report code number does not indicate a specific laboratory, or is obsolete or not given in this list.

Two series of translations are currently received, one sponsored by the AEC (AEC-tr), the other by the National Science Foundation (NSF-tr).

LIST OF UNCLASSIFIED REPORTS RECEIVED AND ISSUED IN THE UCRL
INFORMATION DIVISION DURING THE PERIOD MAY 1 - 15, 1955

Radiation Laboratory, Department of Physics
University of California, Berkeley, California

May 17, 1955

<u>Index Number</u>	<u>Title</u>	<u>Author</u>	<u>Date</u>
<u>BIOSCIENCES</u>			
A.E.R.E. MED/R 1579	Blood Count Levels at A.E.R.E. in Relation to Radiation Dosage	F.M. Turner	12-13-54
NM-Research Summ- aries 7-1/12-31-54	Summaries of Research 1 July - 31 December 1954		
NYO-4918	Incorporation of Orotic Acid- $2-C^{14}$ and Cytidine- C^{14} into Nucleic Acids of Normal and Irradiated Chick Embryos	G.W. Buckaloo G. Jackson P.S. Lavik Western Reserve Univ.	4-22-55
ORNL-1872	Calculated Depth Dose Curves in Tissue for Broad Beams of Fast Neutrons	W.S. Snyder J. Neufeld	5-5-55
UCLA-333	The Technics of Leukocyte Isolation	W.A. Skoog W.S. Beck	4-12-55
UR-390	The Determination of Fluoride in Urine	F.A. Smith W.E. Gardner	4-12-55
UR-392	The Acute Toxicity and Retention of Orally Administered Polonium ²¹⁰ in the Rat	R.J.D. Rosa R.G. Thomas J.N. Stannard	4-27-55
USNRDL-TR-29	Recovery From Acute Radiation Injury in Mice Following Administration of Rat Bone Marrow	L.J. Cole J.G. Habermeyer V.P. Bond	1-19-55

*Microcards

CHEMISTRY

AD-28515	Summary Report on Diffusion of Hydrogen, Nitrogen, and Oxygen in Titanium to Watertown Arsenal Lab.	Columbia Univ.	7-13-53
A.E.R.E. C/M 220	The Preparation of a Quantity of Aluminium Phosphide	E.Hesford F.Hudswell R.B.Andrews, et al	10-54
A.E.R.E. C/R 1483	Some Nitrates of Quandrivalent Ruthenium	J.S.Anderson J.D.M.McConnell	1954
A.E.R.E. C/R 1514	The Extraction of Some Rare Earths By Tributyl Phosphate	H.A.C.McKay K.Alcock S.Scargill	1954
ANL-5410	Manual of Special Materials Analytical Laboratory Procedures	J.H.Patterson	3-55
K-1208	A Process Instrument for Continuous Hydrogen Analysis	D.M.Papke	4-8-55
KAPL-1300	The Continuous Detection of Hydrogen or Hydrogenous Materials in Gases	L.P.Pepkowitz	4-14-55
LA-1864	The Determination of Free Acid in Plutonium Solutions	M.E.Smith	5-3-55
MISC 1955-64	Research Progress Report The Geochemistry of Uranium and Recovery from Low Grade Ores 1-1-54 to 12-31-54	F.Daniels J.S.Adams C.W.Pitrat, et al Wisconsin Univ.	
MISC 1955-65	Heats of Adsorption of Krypton on Highly Graphitized Carbon Black Tech. Rpt. No. 6	R.A.Beebe C.H.Amberg W.B.Spencer Amherst College	2-55
MISC 1955-69	The Alkali Metal Phosphides and the Lower Hydrides of Phosphorus	E.C.Ever E.H.Street, Jr. J.M.Finn, Jr., et al Penn. Univ.	3-3-55

*Micorcards

MISC 1955-72	Research Report No. 42.1 Uranium Recovery Project. Metallurgical Testing of U. and I. Uranium Ore (AEC 321)	K.E.Tame 4-55 J.A.Pike P.L.Placek Bureau of Mines
MISC 1955-73	Tests of A Simplified General Model for Adsorption of Rare Gases on Solids Technical Reports on Contracts N6 ONR-269. T.O.X and DA-36-061-ORD-403	J.G.Aston 3-30-55 Cryogenic Lab., Ohio State Univ.
MISC 1955-75	The Determination of the Potential Constants of Ozone From Centrifugal Distortion Effects	L.Pierce Mallinckrodt Chem.Lab. Harvard
MLM-799 (Rev.)	Apparatus for Determining the Physical Properties of Solutions at Elevated Temperatures (Information Report)	J.R.Heiks 1-14-53 M.K.Barnett L.V.Jones, et al
MLM-973	The Solubility of Polonium Nitrate in Nitric Acid Solutions	E.Orban 7-27-54
NBS-3992	The Statistical Thermodynamics of Isotope Effects. III. The Equation of State of the Hydrogen Isotopes	A.S.Friedman 3-15-55 I.Oppenheim
NBS-4005	The Statistical Mechanical Calculation of the Data of State of the Helium Isotopes at Intermediate Temperatures and Densities	A.S.Friedman 4-1-55 I.Oppenheim
NEPA-1550	Third Topical Report Appraisal of the Weichselfelder Method for Preparation of Iron and Nickel Hydrides	M.D.Banus 7-31-50 T.R.P.Gibb, Jr. Chemical Research Lab., Metal Hydrides, Inc.
NRL-4506	Thermal Conductivity of Mercury	C.T.Ewing 3-17-55 R.E.Seebold J.A.Grand, et al
ORNL-1882	The Use of Radioactive Carbon in a Study of 3-Phenylcyclohexyl and Related Systems	H.J.Schaeffer 5-5-55
ORO-137 *Microcards	Chemical Effects of Nuclear Transformation Annual Progress Report	R.R.Edwards 1-1-55 Arkansas Univ.

PDB-95 and
Addendum

A Bibliography of Mass Spectrometry References

Chalk River 10-15-53
Project (Canada)

GEOSCIENCES

MISC 1955-64

Research Progress Report The Geochemistry of Uranium and Recovery from
Low Grade Ores 1-1-54 to 12-31-54

F. Daniels
J.A.S. Adams
C.W. Pitrat, et al
Wisconsin Univ.

METALLURGY AND CERAMICS

KAPL-1309

The Causes of Brittle Failure of Nickel-Manganese Brazing Wire and
Recommendations for its Prevention

W.E. Seymour 2-12-55
H.T. Sumsion
L.M. Osika, et al

MISC 1955-60

The Properties of Oxidation Resistant Scales Formed on Molybdenum-Base
Alloys at Elevated Temperatures

M. Gleiser 2-55
W.L. Larsen
R. Speiser, et al
Ohio State Univ.

MISC 1955-68

First Technical Progress Report High Temperature Scaling Behavior of
Zirconium

D.J. Garibotti 3-15-55
H.M. Green
W.M. Baldwin, Jr.
Case Inst. of Tech.

MISC 1955-72

Research Report No. 42.1 Uranium Recovery Project Metallurgical Testing
of U. and I. Uranium Ore (AEC 321)

K.E. Tame 4-55
J.A. Pike
P.L. Placek
Bureau of Mines

MISC 1955-76

Scientific Report No. 14 on the Stabilization of the Pinch Effect by
a Conducting Copper Shell

W.H. Bostick 11-1-54
L.S. Combes
J.A. Levine, et al
Tufts College

*Microcards

PHYSICS

A.E.R.E. C/R 1553	Polarographic Theory Part I: The Influence of Non-Uniform Mercury Flow and Intermittent Polarization on the Diffusion Current	G.C.Barker	1954
A.E.R.E. EL/R 1536	Electronic Component Failures at Harwell January - June, 1953	R.L.Elliott	1954
A.E.R.E. EL/R 1555	The Gamma Ray Spectrum of Fission Products from Slow Neutron Irradiation of Uranium 235	D.H.Peirson	1954
A.E.R.E. GP/R 1479	Dielectric Measurements in the 3cm Wavelength Region	P.E.Redmill P.S.Rogers	12-3-54
A.E.R.E. GP/R 1578	A Matrix Treatment of Four-Arm Bridges	L.B.Mullett	1954
A.E.R.E. T/M 114	Linear Accelerator Phase Oscillations	J.S.Bell	10-54
CERN-PS/PL 2	Etude Graphique Des Trajectorires Representation Dans L'Espace Des Phases		2-55
CERN-PS/PL-3	Injection Dans Le Synchrotron. Reglage De L'Acceptance Du Synchrotron		2-55
CVAC-255T	Calibration of Standard 50 CC and 900 CC Ionization Chambers	C.F.Malone V.M.Davis Consolidated Vultee Aircraft Corp.	3-8-54
DDJ-9	Surveyed Reference Points on the AGS Magnet Foundation	D.D.Jacobus Brookhaven	3-17-55
DDJ-10	Alignment of A.G.S. Magnet Sectors	Brookhaven	
DP-112	A Versatile Laboratory Servo-Amplifier	L.M.Johnson	3-55
EDC-18	Matrices for Alternating Gradient Synchrotron	E.D.Courant Brookhaven	3-4-55

*Microcards

EDC-19	Orbit Distortion Due to Magnetic Fields in Electron Analogue	E.D.Courant Brookhaven	3-23-55
ISC-577	Quarterly Summary Research Report In Physics For October, November, and December, 1954		4-12-55
LA-1891	Solution of the Transport Equation by S_n Approximations This Report is a Revision of LA-1599	B.G.Carlson	2-55
MISC 1955-55 (Translation)	"The Reaction $p+p \rightarrow d+\pi^+$ at 460 Mev."	M.G.Meshcheryakov B.S.Neganov V.M.Sidorov Akademia Nauk, SSSR. Doklady	
MISC 1955-57	Photoproduction of Positive Pions in Hydrogen-Magnetic Spectrometer Method	R.L.Walker J.G.Teasdale V.Z.Peterson, et al Calif. Inst. of Tech.	
MISC 1955-59	Production of π^+ Mesons From Hydrogen	A.V.Tollestrup J.C.Keck R.M.Worlock Calif. Inst. of Tech.	
MISC 1955-61	Viscous Flow of Glasses Technical Report No. 10	Rutgers Univ.	3-1-55
MISC 1955-62	A Solid-State Model for Detonations Technical Report Number XVI	R.B.Parlin J.C.Giddings Utah Univ.	1-1-55
MISC 1955-63	Terminal Report Contract Nonr-81604 (Gaseous Electronics)	Wash.Univ.	
MISC 1955-67	A. Invariance of Integrated Transmittance and Total Fractional Transmission with Experimental Slit Function B. Determination of Absolute Intensities from Single-and Multiple-Path Absorption Measurements C. Distortion of Spectral Lines by Rectangular and Triangular Slit Functions	C.R.DePrima S.S.Penner H.Aroeste, et al Guggenheim Jet Prop. Center,	3-55

NAA-SR-1111	Imperfections in Copper in Terms of Electrical Resistivity and Thermoelectric Power	G.W.Rodeback 5-1-55
NAC-2	Torsional Deflection of the Magnet Ring Beam	N.A.Christensen Brookhaven 2-24-55
NAC-3	Further Consideration of Torsional Deflection of Magnet Ring Beam	N.A.Christensen Brookhaven 3-5-55
NEVIS-7	A Diffusion Cloud Chamber Study of Very Slow Mesons: II. Beta Decay of the Muon	C.P.Sargent 3-55 M.Rinehart L.M.Lederman, et al Nevis Cyclotron Lab. Columbia Univ.
NEVIS-8	Search for the β -Decay of the Pion	S.Lokanathan 3-55 J.Steinberger
NYO-6546	K-Series X-Rays From π -Mesonic Atoms	M.Camac 3-20-55 S.D.McGuire J.B.Platt, et al Rochester Univ.
NYO-7130	L-Series X-Rays From π -Mesonic Atoms	M.Camac 3-20-55 M.L.Halbert J.B.Platt Rochester Univ.
ORNL-1872	Calculated Depth Dose Curvey in Tissue for Broad Beams of Fast Neutrons	W.S.Snyder 5-5-55 J.Neufeld
ORNL-1876	Differential Systems with Interface Conditions	F.W.Stallard 4-28-55
PDB-95 and Addendum	A Bibliography of Mass Spectrometry References	Chalk River 10-15-53 Project (Canada)
R-277	Equations of State on the Thomas-Fermi Statistical Model	R.Latter 4-1-54 RAND Corp.

*Microcards

RA-DET-
Vol. 8 No. 1

Seventeenth Quarterly Report - RCA Special Tube Development Program

Radiation
Instruments Branch
Div. of Biology and
Medicine AEC

REACTOR SCIENCES

A.E.R.E. RE/R.
1486

Linear Increases in Pile Reactivity Analogue Computer Results

T.E. Burnup 8-54

MISCELLANEOUS

ANL-5427

Additions to the Library Report for the Period April 1-15, 1955
Technical Reports and Books

P.A. Schulze

ASTIA-U-78

Title Announcement Bulletin No. U-78

4-18-55

JENER 1952/53

Second Annual Report 1952/53

JENER-1953/54

Third Annual Report 1953/54

MISC 1955-56

Technical Information Bulletin No. 8

Tec. Info.
Service, AEC

NACA-Abstract #82

Research Abstracts No. 82

National 5-4-55
Advisory Committee
for Aeronautics

NP-5506

Observations on the Meteorological Dispersal of Stack Gases at the
Raleigh Reactor Stack (Thesis)

North Carolina 1954
State College

R-97
CU-77

Electrical Resistance and Hydraulic Friction in Small Copper Tubes

R.M. Edelstein 1-55
W.F. Godell, Jr.
Columbia Univ.

LIST OF UNCLASSIFIED REPORTS ISSUED IN THE UCRL INFORMATION DIVISION

UCRL-2923	Liquid-Hydrogen Bubble Chambers	D.Parmentier, Jr. A.J.Schwemin 3-15-55
UCRL-2930	High Pressure Low Resistance Joint	R. Peters 3-28-55
UCRL-2935	Strength of Plastic Windows at 20° K	D.Parmentier, Jr. 3-30-55
UCRL-2952	The Nuclide 99 ²⁵⁴	B.G.Harvey 4-11-55 S. G. Thompson G.R.Choppin A.Ghiorso
UCRL-2959	Extended Isotopic Spin Invariance and Meson-Nucleon Coupling	S.A.Bludman 4-15-55
UCRL-2962	List of Unclassified Reports Received and Issued in the UCRL Information Division During the Period April 1-15, 1955	
UCRL-2965	Metastable States of Re ¹⁸⁰ , Ir ¹⁹¹ , Au ¹⁹³ , Pb ²⁰¹ , and Pb ²⁰³	V.K.Fischer 4-55
UCRL-2966	Anomalous Meson Decay	R.Karplus R.D.Lawson M.A.Ruderman
UCRL-2967	Resonances in the Elastic Scattering of Protons	B.B.Kinsey 4-21-55
UCRL-2972	Elastic Scattering of 48.2-Mev Alpha-Particles	R.E.Ellis 4-22-55 L.Schechter

LIST OF TRANSLATIONS ISSUED IN THE UCRL INFORMATION DIVISION

UCRL Trans. 223 (L)	"Formation of Mesons in the Reaction $p+p \rightarrow d+\pi^+$ in the Region 510 - 660 Mev."	M.G.Meshcheryakov B.S.Neganov Akademiia Nauk, SSSR.Doklady
------------------------	--	---

*Microcards

UCRL-Trans.
224 (L)

"Formation of π^0 Mesons by Protons with 670 Mev Energy
on Nuclei of Different Elements."

A.A.Tyapkin
M.S.Kozodaev
Yu. D. Prokoshkin
Akademiia Nauk,
SSSR. Doklady

UCRL-Trans.
229

"Effect of Heavy Water on the Reaction of Photoreduction of
Chlorophyll and Photochemicalactivity of Substances of Green Leaves."

A.A.Krasnovskii
G.P.Brin
Akademiia Nauk,
SSSR. Doklady