

# Lawrence Berkeley National Laboratory

## Recent Work

### Title

LIST OF UNCLASSIFIED REPORTS RECEIVED AND ISSUED BY THE UCRL INFORMATION DIVISION DURING THE PERIOD OF AUGUST 1-15, 1958

### Permalink

<https://escholarship.org/uc/item/388519k6>

### Author

Lawrence Berkeley National Laboratory

### Publication Date

1958-08-18

UNIVERSITY OF  
CALIFORNIA

Radiation  
Laboratory

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.

UNIVERSITY OF CALIFORNIA

Radiation Laboratory  
Berkeley, California

Contract No. W-7405-eng-48

LIST OF UNCLASSIFIED REPORTS RECEIVED AND ISSUED BY THE UCRL  
INFORMATION DIVISION DURING THE PERIOD OF AUGUST 1 - 15, 1958

August 18, 1958

Printed for the U. S. Atomic Energy Commission

LIST OF UNCLASSIFIED REPORTS RECEIVED AND ISSUED BY THE UCRL  
INFORMATION DIVISION DURING THE PERIOD OF AUGUST 1 - 15, 1958

Radiation Laboratory  
University of California  
Berkeley, California

August 18, 1958

| <u>Index Number</u> | <u>Title</u>   | <u>Author</u> | <u>Date</u> |
|---------------------|--|---------------|-------------|
| <u>BIOSCIENCES</u>  |  |               |             |
| EC-tr-2951          | The Bone Marrow Structure in Rats After Irradiation by Fast Electrons, by Theodor M. Fliedner, S. Sandkühler, and Rudolf Stodtmeister. Trans. from Zeitschrift für Zellforschung und mikroskopische Anatomie <u>43</u> , 195-205 (1955).     |               |             |
| EC-tr-3088          | Changes in Bones Induced by the Introduction of Radioactive Strontium into Rats, by L. A. Cherkasskii. Trans. from Voprosy Onkologii <u>2</u> , 275-84 (1956).   |               |             |
| EC-tr-3089          | Studies on Leucocytosis and Leucopenia Observed on the Basis of the Mitosis of Nucleated Cells in the Bone Marrows, by Tokuji Miyamoto. Trans. from Nippon Ketsueki Gakkai Zasshi <u>18</u> , 647-58 (1955).                                 |               |             |
| EC-tr-3122          | Maximum Permissible Concentrations of Radioactive Isotopes, by A. Catsch. Trans. from Atomkernenergie <u>2</u> , 181-6 (1957).   |               |             |
| EC-tr-3129          | On the Processes Within the Organism of Accumulation and Excretion of the Radioactive Isotopes of the Alkali Earths, Rare Earths, and Heavy Elements, by G. E. Fradkin. Trans. from Meditsinskaya Radiologiya <u>2</u> , no. 2, 13-8 (1957). |               |             |

Studies on the Biological Effects of High Energy Electrons and Roentgen Rays on the Pupae of Drosophila, by Wolfgang Ditttrich, Wolfgang Paul, Gotthold Sais, and Gerhard Schubert. Trans. from Zeitschrift für Naturforschung 4b, 226-9 (1949).

The Accumulation of Radioactive Fallout on Typical Materials of Construction.

F. P. Cowan  
Brookhaven Nat'l Lab.,  
Upton, N. Y.

3-58

Buildup of Chronically Fed  $Cs^{137}$  in the Rat.

J. E. Ballou,  
R. C. Thompson

5-1-58

Quarterly Progress Report No. 27.

Chicago Univ. Air  
Force Radiation Lab.

4-15-58

Effects of Radioactive Gold (Au-198) on the Bone Marrow, by Theodor M. Fliedner and Rudolf Stodtmeister. Trans. from Strahlentherapie 101, 289-95 (1956).

The Significance of Parietal Vessel Lesions for Haematopoiesis Injury to Rats After Total Body Irradiation of 15 Mev Electrons, by Rudolf Stodtmeister, S. Sandkühler, and Theodor M. Fliedner. Trans. from Strahlentherapie 101, 308-17 (1956).

The Effect of X-Rays on Internal Organs, by H. Heineke. Trans. from Münchener Medizinische Wochenschrift 51, 785-6 (1904).

The Effect of the "Tendency to Report Injuries" on Minor Accident Statistics. (M.S. Thesis)

J. A. Barker

8-1-58

Hormone Induced Lymphocyte Release from the Isolated Perfused Dog Spleen.

M. Goldman,  
L. W. Tuttle

6-2-58

|               |  |                                    |         |
|---------------|--|------------------------------------|---------|
| UR-520        | The Biochemical and Physiological Functions of the Cell Surface.   | A. Rothstein                       | 3-28-58 |
| UR-523        | The Relationship Between the Surface Appearance and Depth of Damage of Subfabric and Bare Skin Burns Produced by Radiant Thermal Energy. | K. M. Berkley                      | 4-8-58  |
| USNRDL-TR-244 | Depth-Dosimetry by Means of a Gel-Incorporated Chemical System.  | J. F. Pestaner,<br>L. H. Gevantman | 7-18-58 |
| USNRDL-TR-245 | Prevention of Late Deaths in X-Irradiated Mice by Injected Hematopoietic Cells of Newborn Donors.  | L. J. Cole                         | 2-24-58 |

CHEMISTRY

- AEc-tr-2683 A Kinetic Method of Using Labelled Atoms to Investigate Complex Chemical and Biochemical Processes. 6. Rates of Formation and Consumption of Acetaldehyde, CO and CO<sub>2</sub> in the Oxidation of Propylene, by M. B. Neyman, V. Ia. Efremov, N. K. Serdiuk, and A. F. Lukovnikov. Trans. from Akademia Nauk S.S.S.R. Otdelenie Khimicheskikh Nauk, Izvestia 1956, 408-14.
- AEc-tr-2889 Polymerization and Other Transformations of Ethylene and Propylene Under the Action of Heat, Free Radicals, and Other Active Particles, by Ia. I. Eidus and K. V. Puzitskii. Trans. from Uspekhi Khimii 22, 838-77 (1953).
- AEc-tr-2911 On Thiazole System Amine=N-Oxides, by Eiji Ochiai and Eisaku Hayashi. Trans. from Yakugaku Zasshi 67, 34-5 (1947).
- AEc-tr-2986 The Diffraction of Electromagnetic Waves at Dielectric Cylinders as a Method for Measuring the Thickness of Quartz Fibres, by Ernest Eberhardt. Trans. from Zeitschrift für angewandte Physik 3, 292-6 (1951).
- AEc-tr-3066 Beckmann Rearrangement in Trifluoroacetic Acid, by Milos Hudlicky. Trans. from Chemické Listy 51, 470-3 (1957).
- AEc-tr-3067 Contribution to the Study of Reaction Between Gases and Solids, by A. Van Tiggelen, L. Van Reusel, and P. Neven. Trans. from Sociétés Chimiques Belges, Brussels. Bulletin 61, 651-82 (1952).
- AEc-tr-3078 An Examination of Autocatalytic Reactions on Surfaces of Separation, by Georg-Maria Schwab and Siegfried Riethmayer. Trans. from Zeitschrift für physikalische Chemie, New Ser., 7, 343-59 (1956).

Microcards



- \*AEC-tr-3080 Emission of Ultra-Violet Radiation in Gases Subjected to the Influence of  $\alpha$ -Particles, by Rene Audubert and Solange Lormeau. Trans. from Académie des Sciences, Paris. Comptes Rendus 228, 318-20 (1949).
- \*AEC-tr-3083 The Determination of Variations in the Lattice Parameters of Various Graphites, by Ferdinand M. Kessler. Trans. from Chemické Listy 51, 13-20 (1957).
- \*AEC-tr-3087 Determination of Aluminum in the Presence of Fluorides with the Use of 8-Hydroxyquinoline, by V. A. Vasilev. Trans. from Zavodskaya Laboratoriya 6, 432-4 (1937).
- \*AEC-tr-3090 Calculation of the Speeds of Gaseous Chemical Reactions Occurring During Flow, by G. M. Panchenkov. Trans. from Moscow. Universitet. Uchenye Zapiski No. 174, 53-74 (1955).
- \*AEC-tr-3093 Development of Isotope Production in the USSR, by Iu. S. Frolov, V. V. Bochkarve, and E. E. Kulish. Trans. of a booklet issued by Vsesoiuznoi Nauchno-Tekhnicheskoi Konferentsii po Primeneniiu Radioaktivnikh i Stabilnikh Izotopov i Isluchanii v Narodnoa Khoziaistve i Nauke, Moscow, 1957.
- \*AEC-tr-3095 The Determination of Surface Area of Powders by Means of Adsorption in the Liquid Phase Using  $C_{14}$  Stearic Acid, by Eiji Mito, Masabumi Arakawa, and Akira Arakawa. Trans. from Nippon Kagaku Zasshi 75, 596-602 (1954).
- \*AEC-tr-3097 Polarization and Crystal Growth in Electrodeposition of Copper, by R. Sroka and H. Fischer. Trans. from Zeitschrift für Elektrochemie 60, 109-18 (1956).
- \*AEC-tr-3103 Production of Instruments for Determination of Air Contamination, by N. A. Kudachkov. Trans. from Gazovaya Promyshlennost 1956, no. 5, 29.

\*Microcards

- AEC-tr-3104 Use of Pulsed Ionization Chamber as an  $\alpha$ -Ray Spectrometer. Construction and Operation of the Chamber, by B. A. Bochanov, A. A. Vorobev, and A. P. Komar. Trans. from Akademiia Nauk S.S.S.R. Seriya Fizicheskaya. Izvestiia 20, 1455-60 (1956).
- AEC-tr-3105 Energy-Transference Processes in Luminescence, by Wilhelm Hanle. Trans. from Physikalische Blätter 10, 565-77 (1954).
- AEC-tr-3106 A Diffusion Hygrometer, by L. F. Scerbakova. Trans. from Meteorologiya i Gidrologiya 1957, no. 6, 49-52.
- AEC-tr-3109 The Preparation of Metallic Scandium in Compact State, by František Petrů, Bohumil Hájek, and Vladimír Procházka. Trans. from Chemické Listy 50, 2025 (1956).
- AEC-tr-3111 Progress in the Chemistry of Scandium During the Last Ten Years, by V. V. Tscherbina (i.e., Shcherbina). Trans. from Uspokhi Khimii 9, 1333-9 (1940).
- AEC-tr-3116 Change in the Electrochemical Activity of Zirconium Under the Effect of Radiation, by I. L. Rozenfeld and E. K. Oshe. Trans. from Akademiia Nauk S.S.S.R. Doklady 114, 143-5 (1957).
- AEC-tr-3117 The Melting Curves of the Systems Bismuth - Chlorine and Bismuth - Bromine, by B. G. Eggink. Trans. from Zeitschrift für physikalische Chemie A64, 449-505 (1908).
- AEC-tr-3119 Change of Electrical Conductivity of Molten Bismuth Upon Solution of Bismuth Chloride, by Werner Braunbeck. Trans. from Zeitschrift für Physik 73, 335-47 (1931).
- AEC-tr-3126 The Preparation of Metallic Scandium in the Solid State, by František Petrů, Vladimír Procházka, and Bohumil Hájek. Trans. from Chemické Listy 51, 672-5 (1957).

Microcards

- \*AEC-tr-3127      Metal Hydrides. II. Hydrides of Earth Alkali Metals and of Lithium, by Fritz Ephraim and E. Michel. Trans. from Helvetica Chimica Acta 4, 914-20 (1921).
- \*AEC-tr-3132      Electrolytic Processes for the Preparation of Pure Metal from Ore and Crude Metal, by Günther Hänsel. Trans. from Elektrotechnische Zeitschrift 64, 579-84 (1943).
- \*AEC-tr-3136      Dependence of Plasticity of Rock Salt on the Surrounding Medium, by K. Kleinhamns. Trans. from Physikalische Zeitschrift 15, 362-3 (1914).
- \*AEC-tr-3138      The Infrared Spectrum and the Study of Water in Solids. Part I. General Introduction and Status of the Problem, by Jean LeComte. Trans. from Journal de Chimie Physique et de Physico-Chimie Biologique 50, 53-71 (1953).
- \*AEC-tr-3156      Changes in the Absorption Spectrum of Nitrate Ion, by Istvan Hegedüs. Trans. from Szeged. Tudományegyetem. Acta Universitatis Szegediensis. Sectio Scientiarum Naturalium. Acta Chemica, Mineralogica et Physica 7, 7-25 (1939).
- \*AEC-tr-3159      Zonal Structure of Electrolytically Produced Nickel Layers, by W. G. Burgers and W. Elenbaas. Trans. from Naturwissenschaften 21, 465 (1933).
- \*AEC-tr-3160      A High Resolving Power Electromagnetic Isotope Separator for Heavy Elements, by L. A. Artsimovich, G. I. Shchepkin, V. V. Zhukov, B. N. Marov, S. P. Maksimov, A. F. Malov, A. A. Nikulichev, B. V. Panin, and B. G. Brezhnie. Trans. from Atomnaya Energiya 3, 483-91 (1957).
- \*AWRE-Trans-2      The Use of a Solid Dipping Electrode in the Analysis of Melts, by Iu. S. Lialikov and V. I. Karmazin. Trans. from Zavodskaya Laboratoriya 14, 144-8 (1948).
- \*Microcards
- U. K. Atomic Energy Authority. Weapons Group. Atomic Weapons Research Establishment, Aldermaston, Berks, England

|              |  |   |          |
|--------------|--|---|----------|
| AWRE-Trans-4 | A New Method for the Gravimetric Determination of Fluorine (Binary Phase Precipitation with Triphenylstannichloride), by R. Ballczo and H. Schiffner. Trans. from Zeitschrift für Analytische Chemie <u>152</u> , 3-18 (1956). |   |          |
| BNL-482      | The Extraction of Protactinium from Solid Thorium Fluoride.  | F. T. Miles,<br>R. J. Ham,<br>R. H. Winkler, et al.   | 11-51    |
| CP-57-9-63   | Uranium Tetrafluoride Precipitation Studies. Spring Quarter, 1957 Co-op Report.  | K. J. Fritze<br>Oak Ridge Nat'l Lab.,<br>Tenn.  | 8-30-58  |
| DP-293       | Removal of Silica from Solutions of Nuclear Fuels.   | H. J. Groh  | 6-58     |
| OR-TN/CA-851 | Argon Isotope Analysis with an M. S. 3 Mass Spectrometer Using the Double-Collection Technique.  | P. G. Bentley,<br>A. N. Hamer<br>U. K. Atomic Energy<br>Authority. Industrial<br>Group H. Q., Risley,<br>Lancs, England | 1958     |
| KAPL-1890    | The Determination of Dissolved Argon in Water.   | E. L. Shirley,<br>C. F. Pachucki,<br>L. K. Lolos  | 11-19-57 |
| KAPL-1925    | Non-Destructive Determination of U <sup>235</sup> Content of Rod-Shaped Fuel Elements by Gamma Pulse Spectrometry.   | W. C. Judd,<br>M. B. Leboeuf  | 7-17-58  |
| LA-2776      | Survey of Organic Compounds as Primary Scintillation Solutes. (A Status Report)  | F. N. Hayes,<br>V. N. Katz,<br>D. G. Ott, et al.  | 7-23-58  |
| NAA-SR-2543  | Radiation Intensities Associated with Chemical Processing of Metallic Uranium Fuel.  | S. Berger   | 7-1-58   |

Microcards

|             |  |  |         |
|-------------|--|--|---------|
| NAA-SR-2628 | Diffusion of Cerium and Zirconium in Molten Uranium.   | T. Smith   | 7-1-58  |
| NAA-SR-2687 | Modified Hot Cave Facility for Reprocessing Experiments.   | S. Strauchberg,<br>W. J. Gardner,<br>J. Guen, et al.   | 6-30-58 |
| NLCO-719    | Laboratory and Pilot Plant Evaluation of Bicroft Uranium Concentrate.  | C. T. Hicks,<br>J. H. Krekeler,<br>J. R. Nalli         | 2-26-58 |
| NLCO-731    | Laboratory and Pilot Plant Evaluation of Algom Uranium Concentrate.  | C. T. Hicks,<br>J. H. Krekeler,<br>J. R. Nalli         | 4-3-58  |
| NLCO-734    | Laboratory and Pilot Plant Evaluation of Lorado Uranium Concentrate.   | C. T. Hicks,<br>J. H. Krekeler,<br>J. R. Nalli         | 4-22-58 |
| NLCO-738    | Laboratory and Pilot Plant Evaluation of Northepan Uranium Concentrate.  | C. T. Hicks,<br>J. H. Krekeler,<br>J. R. Nalli         | 4-10-58 |
| NLCO-740    | Laboratory and Pilot Plant Evaluation of Can-Met Uranium Concentrate.  | C. T. Hicks,<br>J. H. Krekeler,<br>J. R. Nalli         | 4-14-58 |
| NLCO-742    | Determination of Thorium in Uranium Ores and Feeds by Solvent Extraction Employing Thenoyltrifluoroacetone.  | P. G. Loun,<br>E. A. Loun                              | 5-23-58 |
| NP-6817     | Development of Prototype Nuclear Radiation Resistant Engine Oil. Quarterly Progress Report for March Through May, 1958. Quarterly Progress Report No. 1. | Shell Development Co.,<br>Emeryville, Calif.           | n.d.    |
| NYO-7499    | Effect of Radiation on Dynamic Properties of High Polymers. Progress Report Covering Period July 1, 1957 to June 30, 1958.                               | J. A. Sauer,<br>Penn. State Univ.,<br>University Park. | 7-1-58  |
| ORNL-2492   | Isotopes Division Annual Report for 1957.  | E. E. Besuchamp,<br>J. H. Gillette,<br>E. Lamb, et al. | 7-21-58 |

\*SCL-T-132

The Chemical Dosimetry of Different Radiations in a Nuclear Reactor, by Jacques Pucheault. Trans. from Journal de Chimie Physique et de Physico-Chimie Biologique 53, 705-13 (1956).

\*SCL-T-141

Displacement of Curie Temperature by Hydrostatic (Omni-lateral) Pressure, by M. Kornetzi. Trans. from Physikalische Zeitschrift 44, 296-302 (1943).

\*TT-692

X-Ray Measurements on Solid Nitrogen and Oxygen, by M. Ruhemann. Trans. from Zeitschrift für Physik 76, 368-85 (1932).

Nat'l. Bur. of Standards  
of Carbon

\*TT-695

Steric Factors of Radical Reactions in Chemical Kinetics, by A. D. Stepukhovich. Trans. from Uspekhi Khimii 25, 263-87 (1956).

Samo

TT-702

Fluorine - Hydroxyl Substitution on Hydroxylapatite as an Ion Exchange Reaction and its Application to Micro - Fluorine Analysis, by A. Knappwost. Trans. from Angewandte Chemie 68, 371-3 (1956).

Samo

WIN-61

Amenability Testing of Additional Samples from the Ambrosia Lake District.

R. U. Johnson,  
H. I. Viklund,  
E. J. Hammerd

5-12-58

WIN-99

Chemical Stream Pollution From Uranium Mills.

A. Whittam,  
E. S. Porter

6-23-58

WIN-101

Some Experiments with Aeration and Agitation of Carbonate Leaching Slurries.

G. W. (unclear)  
R. A. (unclear)

6-23-58

\*Microcards

ENGINEERING

- AEC-tr-1863 Stability of the Flow Distribution in Heating Surfaces with Forced Flow, by A. Kleinhans. Trans. from Archiv für Wärmewirtschaft und Dampfkesselwesen 20, 135-8 (1939).
- AEC-tr-2375 Investigation of the Effect of Pressure on the Coefficient of Heat Transfer in Boiler Tubes, by F. F. Bogdanov. Trans. from Akademiia Nauk S.S.S.R. Otdelenie Tekhnicheskikh Nauk. Izvestiia 1954, no. 6, 137-44.
- AEC-tr-3085 The Aerodynamic Bearing. Part I. Laminar Flow, by G. Heinreich. Trans. from Maschinenbau und Wärmewirtschaft 7, no. 7, 117-20 (1952).
- AEC-tr-3092 A Radio Electric Altimeter with Frequency Modulation, by G. Collette and R. Labrousse. Trans. from Annales de Radioélectricité 10, 387-98 (1955).
- BNL-491 Nuclear Engineering Department. Progress Report (for) October 1 - December 31, 1957. F. Maslan, ed. 5-58
- FWE-151 The Effect of Meteorological Conditions on the Propagation of Blast Waves. S. Malville, W. G. P. Lamb U. K. Atomic Energy Authority. Weapons Group. Atomic Weapons Res. Establishment, Aldermaston, Berks, England and Technical Cooperation Program, AED 2-57
- FWE-162 Refraction of a Shock Wave by a Heated Layer. Gt. Brit. Armament Res. and Dev. Establishment, Fort Halstead, Kent, England and Technical Cooperation Program, AED 5-57

|               |   |   |         |
|---------------|---|---|---------|
| GAT-236       | Heat Transfer and Pressure Drop in a Vertical Square Tube.  | H. L. Foltz<br>Goodyear Atomic Corp.,<br>Portsmouth, Ohio   | 7-14-58 |
| *IGRL-T/W-12  | Contact Heat Transfer Between Machine Components, by E. P. Dyban, N. M. Kondak, and I. T. Shvets. Trans. from Akademiia Nauk S.S.S.R. Otdelenie Tekhnicheskikh Nauk. <u>Izvestiia</u> 1954, no. 9, 63-79. | Gt. Brit. Windocale Works, Sellafield, Cumb., England   |         |
| *NACA-TM-1408 | The Principles of Turbulent Heat Transfer, by H. Reichardt. Trans. from Archiv für die gesamte Wärmetechnik 2, 129-42 (1951).   | Nat'l Advisory Committee for Aeronautics  |         |
| ORNL-2483     | High Temperature Pressure Transmitter Evaluation.   | W. R. Miller  | 7-21-58 |
| REIC-6        | A Survey of Current Research and Developments in the Field of Dosimetry.  | M. J. Oestmann,<br>J. F. Kircher,<br>P. Schall, Jr.<br>Battelle Memorial Inst.<br>Radiation Effects Info. Center,<br>Columbus, Ohio | 5-31-58 |

\*Microcards



METALLURGY AND CERAMICS

- \*AEC-tr-2838 Protective Coatings for High-Melting Metals, by R. Kieffer and E. Nachtigall. Trans. from Métaux (Corrosion-Industries) 27, 312-7 (1952).
- \*AEC-tr-2892 Modern Problems of the Theory of Plasticity, by A. A. Il'iushin. Trans. from Moscow. Universitet. Vestnik 10, no. 4/5, 101-13 (1955).
- \*AEC-tr-3070 Considerations on Demanding from the Standpoint of the Electric Potential Theory, by Fumio Hine. Trans. of a Publication Issued by Kyoto Univ., February, 1957.
- \*AEC-tr-3072 On the Calculation of Metal Resistance to Plastic Deformation as a Function of Deformation Rate and Temperature, by L. D. Sokolov. Trans. from Akademiia Nauk S.S.S.R. Doklady 67, 459-62 (1949).
- \*AEC-tr-3081 A Systematic Study of the Dependences on Speed and Temperature of the Resistance to Deformation in One-Phase Metals, by L. D. Sokolov. Trans. from Akademiia Nauk S.S.S.R. Doklady 70, 839-41 (1950).
- \*AEC-tr-3102 Study of Intermetallic Diffusion Phenomena in the Uranium - Zirconium System, by Yves Adda, Jean Philibert, and Henriette Faraggi. Trans. from Revue de Métallurgie 54, 597-610 (1957).
- \*AEC-tr-3110 Problem of the Physicochemical Properties of Boron - Carbon Alloys, by G. V. Samsonov, N. N. Zhuravlev, and I. G. Ammel. Trans. from Fizika Metallov i Metallovedeniia 3, 309-19 (1956).
- \*AEC-tr-3125 Scientific Principles in the Production of Metallic Tungsten for the Electric-Lamp Industry and the Control of its Characteristics, by T. Millner. Trans. from Acta Technica Academiae Scientiarum Hungaricae 17, 67-112 (1957).

\*AEC-tr-3128 Exposure Diagrams for X-Ray Film Work on Titanium and Zirconium, by K. Sagel. Trans. from Metall 11, 769 (1957).

\*AEC-tr-3133 Certain Properties of Zr - Nb Alloys, by Iu. F. Bychkov, A. N. Rozanov, and D. M. Skorov. Trans. from Atomnaia Energiia 2, 146-51 (1957).

\*AEC-tr-3137 Normal Elastic Modulus of Zr - Nb Alloys, by Iu. F. Bychkov, A. N. Rozanov, and D. M. Skorov. Trans. from Atomnaia Energiia 2, 152-6 (1957).

\*AEC-tr-3167 Conditions for the Deposition and Structure of Compact Electrolytic Metal Deposits. Part II. Electrolytic Nickel Deposits in the Range of the FT and UD Type, by J. Elze. Trans. from Metall 2, 104-9 (1955).

\*AEC-tr-3176 New Method of Deoxidation and Desulfurization of Steel with Improvement in its Quality, by V. A. Skachko and N. P. Merenkov. Trans. from Stal' 17, 541-3 (1957).

ANL-5654 Radiographic Techniques for Inspecting Experimental Boiling Water Reactor Fuel Elements. W. J. McGonnagle, P. R. Gonzales 5-58

APEX-384 Effects of High Temperature on the Performance of ALNICO V and ALNICO VI Permanent Magnets. W. H. Roberts, D. L. Mitchell 7-58

BMI-1300 Constitution of Uranium and Thorium Alloys. F. A. Rough, A. A. Bauer 6-2-58

IGR-TN/C-855 Non Equilibrium Beta Retention in Fuel Elements. R. B. Kehoo U. K. Atomic Energy Authority, Industrial Group H. Q., Risley, Lancs, England 1958

NAA-SR-2457 Low-Temperature Irradiation and Annealing Experiments in Graphite. S. B. Aueterman, Atomics International Div., North Amer. Aviation, Inc., Canoga Park, Calif. 7-15-58

\*Microcards

|               |   |  |         |
|---------------|---|--|---------|
| NAA-SR-2538   | Solid-Phase Transitions in the $UO_2 - ZrO_2$ System.   | G. M. Wolten                                 | 6-15-58 |
| NAA-SR-2693   | Crystal Growth: A Comprehensive Bibliography of Journal Articles and Unclassified Reports 1951-1957.  | F. G. Bennett, IV                            | 6-15-58 |
| AFACA-TM-1411 | Study of the Micro-Nonuniformity of the Plastic Deformation of Steel, by B. B. Chechulin. Trans. from Fizika Metallov i Metallovedeniia <u>1</u> , 251-60 (1955). | National Advisory Committee for Aeronautics. |         |
| ANRL-5047     | Nuclear Power Problems. Progress Report for the Period August 1 to October 1, 1957.   |  |         |

PHYSICS

- \*AEC-tr-2896 Resonances ( $n,n$ ) and the ( $n,p$ ) Reaction in  $P^{31}$  and  $S^{32}$ , by R. Ricamo. Trans. from Nuovo Cimento, Ser. 9, 8, 383-402 (1951).
- \*AEC-tr-3082 Heating of the Stratosphere by Solar Eruptions, by Ferdinand Becker. Trans. from Annalen der Meteorologie 4, 487-92 (1951).
- \*AEC-tr-3084 The Role of the Electron Cloud in the Phenomena of Radioactivity, by R. Daudel and M. Jean. Trans. from Academie des Sciences, Paris. Comptes Rendus 229, 354-6 (1949).
- \*AEC-tr-3096 The Electric Mass Filter, by W. Paul and M. Raether. Trans. from Zeitschrift für Physik 140, 262-73 (1955).
- \*AEC-tr-3101 Solving the Equations of Magnetic Gas Dynamics for One-Dimensional Movement, by S. A. Kaplan and K. P. Staniukovich. Trans. from Akademiia Nauk S.S.S.R. Doklady 95, 769-71 (1954).
- \*AEC-tr-3108 A Method of Integral Measurements with Extremely High Time Constants, by G. Bartels and R. Steinert. Trans. from Nachrichtentechnik 6, 500-2 (1956).
- \*AEC-tr-3115 A Radiosonde Without Transmitter, by V. V. Kostarev. Trans. from Meteorologia i Gidrologiia 1946, no. 3, 83-6.
- \*AEC-tr-3121 Disintegration of  $Y^{90}$ . The Transition  $0^+ \rightarrow 0^+$  in  $Zr^{90}$  Limit of Fierz, by T. Yuasa, J. Laberrique-Frolow, and L. Feuvrais. Trans. from Journal de Physique et le Radium 18, 498-504 (1957).
- \*AEC-tr-3144 Movement of Charged Particles in the Central Region of a Cyclotron, by V. S. Panasiuk. Trans. from Atomnaia Energiia 3, 341-4 (1957).

\*Microcards

- AEC-tr-3146 The Gyro-Relaxation Effect, by A. Schlüter. Trans. from Zeitschrift für Naturforschung 12a, 322-5 (1957).
- AEC-tr-3147 Oscillations of a Plasma Cylinder in an External Magnetic Field, by K. Körper. Trans. from Zeitschrift für Naturforschung 12a, 815-21 (1957).
- AEC-tr-3148 Axial-Symmetrical Solutions of the Magnetohydrostatic Equation with Surface Currents, by L. Biermann, K. Hain, K. Jörgens, and R. Lüst. Trans. from Zeitschrift für Naturforschung 12a, 826-32 (1957).
- AEC-tr-3149 The "Adiabatic Invariance" of the Magnetic Orbital Moments of Charged Particles, by F. Hertweck and A. Schlüter. Trans. from Zeitschrift für Naturforschung 12a, 844-9 (1957).
- AEC-tr-3150 Axially Symmetrical Magnetohydrodynamic Equilibrium Configurations, by R. Lüst and A. Schlüter. Trans. from Zeitschrift für Naturforschung 12a, 850-4 (1957).
- AEC-tr-3151 Force-Free Magnetic Fields. [Part] II., by A. Schlüter. Trans. from Zeitschrift für Naturforschung 12a, 855-9 (1957).
- AEC-tr-3163 The Proton Synchrotron, by C. J. Bakker. Trans. from Nederlands Tijdschrift voor Natuurkunde 21, 201-9 (1955).
- ANL-5860(pt.1) Supplement to a Table of Wigner 9j Coefficients for Integral and Half-Integral Values of the Parameters. K. Smith 4-58
- ANL-5860(pt.2) Supplement to a Table of Wigner 9j Coefficients for Integral and Half-Integral Values of the Parameters. K. Smith 4-58
- CERN-58-15 Note on a Two-String Model Used to Examine the Effects of Charge Separation on the Stability of a Plasma Current Thread. A. Schoch 6-58

|                                      |   |   |         |
|--------------------------------------|---|---|---------|
| DP=279                               | Formation of U-232 During the Irradiation of Thorium.   | D. S. St. John,<br>E. C. Toops  | 4-58    |
| FWE=150                              | A 4-Spark Repetitive Light Source Using Beam-Splitters.   | J. E. Bowman,<br>J. Peole<br>U. K. Atomic Energy<br>Authority. Weapons Group.<br>Atomic Weapons Res. Establish-<br>ment, Aldermaston, Berks,<br>England and Technical Cooperation<br>Program, AEC | 7-56    |
| ISC=975                              | Semi-Annual Summary Research Report in Physics for July<br>Through December, 1957.  | Ames Lab., Ames<br>Iowa   | n.d.    |
| LA=2196                              | The Diffusion of Radiation.   | F. H. Harlow,<br>B. D. Meixner  | 7-30-58 |
| M=6645                               | Fallout from Nuclear Weapons Tests. Reprinted from<br>Advances in Biological and Medical Physics <u>6</u> , (1958).             | C. L. Dunham<br>Division of Biology and<br>Medicine, AEC  | (1957?) |
| MURA=360<br>(Add. 1 & 2<br>included) | A Manual for the Use of MJRA IBM 704 Production<br>Programmes.  | J. Anderson<br>Midwestern Universities<br>Res. Assn., Madison, Wis.   | n.d.    |
| NAA-SR=2380                          | Application of Fast Neutron Removal Theory to the Calcula-<br>tion of Thermal Neutron Flux Distributions in Reactor<br>Shields. | D. S. Duncan,<br>H. O. Whittum, Jr.   | 7-1-58  |
| *NACA-TM=1431                        | On the Statistical Theory of Turbulence, by W. Heisenberg<br>Trans. from Zeitschrift für Physik <u>124</u> , 628-57 (1948).     | Nat'l Advisory Com-<br>mittee for Aeronautics   |         |
| NYO=7981                             | Experiments on Supersonic Plasma Flow Along Magnetic<br>Fields.   | D. Finkelstein,<br>M. Ehrlich,<br>I. Livingston, et al.<br>N.Y. Univ., N.Y. Atomic<br>Energy Commission Computing<br>and Applied Math. Center   | 3-27-58 |
| *Microcard                           |   |   |         |

|           |   |  |         |
|-----------|---|--|---------|
| MO-8070   | Solving Structural Mechanics Problems on Digital Computers.   | H. J. Greenberg<br>N. Y. Univ., N. Y.<br>Atomic Energy Commission<br>Computing and Applied<br>Math. Center | 7-11-58 |
| ORRT-2180 | Instrumentation and Controls Division Annual Progress Report for Period Ending July 1, 1957.  |  | 7-29-58 |
| ORRT-2535 | Nuclear Reaction Cross Sections from the Nitrogen Bombardment of Sulfur. (Thesis)   | D. E. Fisher   | 7-29-58 |
| ORAL-2556 | Nuclear Structure Effects in Internal Conversion Coefficients by Configuration Mixing.  | L. S. Kisslinger   | 8-6-58  |
| ORL-T-123 | Temperature Measurements in the Column of a Gerdien Arc, by Rudolph Wilhelm Lareng. Trans. from Zeitschrift für Physik <u>129</u> , 343-64 (1951).  |  |         |
| ORL-T-133 | A Light Arc for High Power Outputs, by H. Maecker. Trans. from Zeitschrift für Physik <u>129</u> , 108-22 (1951).   |  |         |
| ORL-T-135 | Measuring Apparatus for the Determination of Very Small Inductances, by H. Brand and E. Schuon. Trans. from Elektronische Rundschau <u>11</u> , 65-7 (1957).  |  |         |
| ORL-T-136 | A Mobile Measuring Booth for Oscillograph Recording of Fast High-Voltage Phenomena, by Wolfgang Herbst. Trans. from Elektrotechnische Zeitschrift <u>77A</u> , 105-7 (1956).  |  |         |
| ORL-T-138 | Certain Flat-Surface (Plane) Problems in the Theory of Thermic Waves, by B. G. Korenev. Trans. from Akademiia Nauk S.S.S.R. Doklady <u>112</u> , 29-32 (1957).  |  |         |
| ORL-T-139 | A Relationship Between Hysteresis Coefficient and Permeability. Part III. Ferrite Nuclei with Rectangular Loop. Part IV. Influence of the Coercive Force, by M. Koznetki. Trans. from Zeitschrift für Angewandte Physik <u>8</u> , 127-35 (1956). |  |         |

\*SCL-T-143

On the Permanent Polarization of the Electret, by Gerhart Greetzinger and Hans Kretsch. Trans. from Zeitschrift für Physik 103, 311-9 (1936).

SCR-21

P-N Junction Theory and the Junction Transistor. A Lecture Delivered at Sandia Corp. August 8, 1957. Sandia Corp. Research Colloquium.

W. J. Loivo  
Sandia Corp.,  
Albuquerque, N. Mex. and  
Oklahoma State Univ. of  
Agriculture and Applied  
Science, Stillwater

6-58

USNRDL-TR-237

Experimental Investigation of Thick Target Bremsstrahlung Radiation from Electrons of 1.00, 1.50, and 2.00 Mev.

E. A. Edelsack,  
W. E. Kreger,  
W. Mallet, et al.

5-27-58

WAPD-TM-53  
(Addendum 1)

Candle - A One-Dimensional Few-Group Depletion Code for the IBM-704, Addendum 1. Candle 2.

O. J. Marlowe,  
P. A. Ombrellaro

10-57

WAPD-TM-53  
(Addendum 2)

Candle. A One-Dimensional Few-Group Depletion Code for the IBM-704. Addendum 2. Candle 3.

L. M. Culpepper

10-57

\*Microcard



REACTOR SCIENCE

|             |   |   |         |
|-------------|---|---|---------|
| AEC-tr-3135 | Effect of Cavities on the Critical Mass of a Swimming Pool-Type Reactor, by B. P. Rastogi. Trans. from Atomnaia Energiia 2, 417-9 (1957). |   |         |
| APEX-358    | Poison Retention in Reactor Fuses.  | R. J. Spera,<br>S. N. Stilwell  | 8-57    |
| FR-5242     | Naval Research Laboratory Research Reactor. Part V. Effects of Air Voids and Fuel-Free Regions.   | K. W. Marlow,<br>E. I. Nowstrup,<br>R. H. Vogt  | 6-26-58 |
| ORNL-2537   | An Investigation of the Stresses in a Discontinuity Region of a Pressure Vessel. (M. S. Thesis)   | B. L. Greenstreet   | 7-21-58 |
| ORNL-2545   | Calculation of the Photonutron Flux in the Water Near the Bulk Shielding Reactor.   | G. De Saussure  | 7-29-58 |
| UC-7553     | Proceedings of the SRE-OMRE Forum Held at Los Angeles, California February 12 and 13, 1958.   | Atomics International<br>Div., North American<br>Aviation, Inc.,<br>Canoga Park, Calif. | 5-58    |

MISCELLANEOUS

|                                |  |   |         |
|--------------------------------|--|---|---------|
| *AEC-tr-3091                   | The Yearly Course of Overcast in World-Wide Presentation, by E. Ekhart. Trans. from Berlin. Freie Universität. Institut für Meteorologie und Geophysik. Meteorologische Abhandlungen <u>2</u> , no. 4, 39-52 (1955). |   |         |
| ANL-5898                       | Additions to the Library. Report for the Period July 1-15, 1958. Technical Reports and Books.  | P. A. Schulze   | n.d.    |
| ASTIA-U58-11                   | Technical Abstract Bulletin. Bulletin No. U58-11.  |   | 8-1-58  |
| BNL-502                        | Quarterly Progress Report [for] January 1 - March 31, 1958.  |   | 6-58    |
| CF-58-1-139                    | Articles Published in Technical Journals, Reports Published, Papers Presented at Scientific Meetings, and Inventions Disclosed During 1957 by ORNL Staff Members.  | Oak Ridge Nat'l Lab., Tenn.   | N.D.    |
| CIA-U6                         | Consolidated Translation Survey for June 1958. No. 6.  | Central Intelligence Agency, Washington, D.C.   | 7-25-58 |
| MISC-1958-50,<br>No.23 (Index) | Index to the Twenty-Third Semiannual Report to Congress [of the Atomic Energy Commission for the Period] July - December, 1957.  | Atomic Energy Commission, Washington, D. C.   | 1958    |
| NACA-ABSTRACTS-<br>128         | Research Abstracts and Reclassification Notice No. 128.  | Nat'l Advisory Committee for Aeronautics  | 7-28-58 |
| ORNL-2578                      | Oak Ridge National Laboratory Status and Progress Report [for] July 1958.  |   | 8-8-58  |
| PR-IO-36                       | Technical Operations. Progress Report [for] January 1, 1958 to March 31, 1958.   | J. A. Morrison<br>Atomic Energy of Canada Ltd. Chalk River Project, Chalk River, Ont. | n.d.    |
| *SCL-T-147                     | Electrical Altimeters for Aircraft, by E. Roessler. Trans. from Elektronische Rundschau <u>10</u> , 133-5 (1956).  |   |         |
| *Microcards                    |  |   |         |

UCRL REPORTS ISSUED DURING AUGUST 1 - 15, 1958

|                         |  |  |         |
|-------------------------|--|--|---------|
| UCRL-8213<br>Lecture 19 | Lecture on "Continuous Groups and Reflections in Quantum Mechanics" by W. Pauli.                               | R. J. Riddell, Jr.   | 7-29-58 |
| UCRL-8265               | Biology and Medicine Semianual Report. October 1957 Through March 1958.  |  | 4-25-58 |
| UCRL-8293               | Delayed Light Emission in Green Plant Materials: Temperature-Dependence and Quantum Yield.                     | G. Tollin,<br>E. Fujimori,<br>M. Calvin  | 7-58    |
| UCRL-8304               | Theoretical Studies of the Alpha Decay of Deformed Nuclei. (Thesis)  | R. R. Chasman  | 6-58    |
| UCRL-8327               | The Distribution of Radioactivity in Toluene Formed from Benzene and Photolyzed Diazomethane-C <sup>14</sup> . | R. M. Lemmon,<br>W. Strohmeier   | 5-58    |
| UCRL-8371               | Chemistry of +1 Iodine in Alkaline Solution. (Thesis)  | Yuan-tsan Chia   | 6-2-58  |
| UCRL-8374               | High-Energy Beta Decay of Light Elements. (Thesis)   | J. F. Vedder   | 6-16-58 |
| UCRL-8376               | Solid-State Phenomena and the Primary Quantum Conversion Process of Photosynthesis.                            | G. Tollin  | 6-16-58 |
| UCRL-8376               | Physical Chemistry and Structure in Photosynthesis.  | J. A. Bascham  | 6-16-58 |
| UCRL-8376               | Survey of Tritium-Producing Nuclear Reactions. (Thesis)  | J. González-Vidal  | 6-58    |
| UCRL-8378               | Angular Distribution of Photopions from Hydrogen. (Thesis)   | E. A. Knapp  | 7-1-58  |
| UCRL-8378               | Dissociation Energies of Gaseous Oxides.   | L. Brewer  | 7-58    |
| UCRL-8381               | The Radiation Chemistry of the Symmetrical Dichloroethylenes. (Thesis)   | J. H. Futrell  | 7-58    |
| UCRL-8378               | Decay Modes of Charged $\Sigma$ Hyperons.  | W. A. Barkas,<br>J. N. Dyer,<br>P. C. Giles,<br>H. P. Heckman,<br>C. J. Mason,<br>M. J. Nicolet. | 6-16-58 |

|                         |   |               |         |
|-------------------------|---|---------------|---------|
| UCRL-8381               | Electrochemical Studies in Cyclic Esters. (Thesis)  | W. S. Harris  | 7-17-58 |
| UCRL-8405               | List of Unclassified Reports Received and Issued by the UCRL Information Division During the Period of July 16 - 31, 1958.  |               | 8-4-58  |
| UCRL-8407<br>Abstract   | Optical-Model Wave Functions for Spin-Orbits Potentials.  | K. R. Greider | 8-58    |
| UCRL Translation<br>394 | The Decompositon of Hydrazine Gas by Glow Discharge, by M. Suzuki, M. Miyazaki, and S. Takahashi. Trans. from Nippon Kagaku Zasshi <u>77</u> , 475-80 (1956).   |               |         |
| UCRL Translation<br>395 | The Decomposition of Hydrazine by High Frequency Glow Discharge, by M. Suzuki, M. Miyazaki, and S. Takahashi. Trans. from Nippon Kagaku Zasshi <u>77</u> , 873-77 (1956).   |               |         |
| UCRL Translation<br>409 | Emission of $\Lambda^0$ -Particles During Capture of $K^-$ -Mesons by Nuclei In Photoemulsion, by N. P. Bogachev, S. A. Buniatov, A. Vrublevskii, D. K. Kopylova, Iu. B. Korolevich, N. I. Petukhova, V. M. Sidorov, E. Skzhipchak, and A. Filipkovskii. Trans. of a report issued by Ob <sup>o</sup> edinennyi Institut Iadernykh Issledovani, Moscow, 1957. |               |         |

INFORMAL REPORTS ISSUED

|          |  |                          |         |
|----------|--|--------------------------|---------|
| UCID-225 | 20 x 50 Bubble Chamber Liquid Hydrogen Supply.                                     | H. P. Hernandez          | 2-8-55  |
| UCID-226 | 20 x 50 Bubble Chamber Engineering.  | H. P. Hernandez          | 2-12-55 |
| UCID-227 | Bubble Chamber Development - Engineering Runs with 4" Bubble Chamber.              | D. Chelton               | 8-25-55 |
| UCID-228 | 10" Bubble Chamber Regenerator Tests.  | D. W. Bartholomew        | 8-31-55 |
| UCID-229 | 72" Bubble Chamber Magnet Yoke - Estimate of Additional Cost for Cutting Yoke Leg. | W. Eaton                 | 9-15-55 |
| UCID-230 | 4" Bubble Chamber First Run with Fast Compression.                                 | H. P. Hernandez          | 3-11-57 |
| UCID-231 | 72" Hydrogen Bubble Chamber - IN Shield Cool Down.                                 | W. Eaton,<br>F. Tanforan | 8-5-58  |

Mechanical Engineering

|             |  |                          |         |
|-------------|--|--------------------------|---------|
| 4310-02 M9  | General Physics Research - Pressure Test of 5" Diameter x 24" Liquid Hydrogen Target. The Target Tested is Shown on Drawing #8D2083. | R. S. Hickman            | 7-25-58 |
| 4331-10 M1  | High Current Cyclotron Development. RF System. Dee Contours-Part A.  | E. Kelly,<br>R. Burleigh | 7-22-58 |
| 4331-91 M1  | High Current Cyclotron Development. Model Magnet. Cost Summary.  | R. Burleigh              | 7-31-58 |
| 4902-01 M3  | 184" Cyclotron Operation. 184" Cyclotron Vacuum System. Pumping Speed Test.  | W. Brunk                 | 8-5-58  |
| 7311-29 M9A | Bevatron - Shielding - Installation of 4' of Concrete on Tangent Tanks (Continued).  | W. W. Salsig, Jr.        | 7-29-58 |

Electrical Engineering

|               |  |                   |         |
|---------------|--|-------------------|---------|
| EE56.         | Stock Proposal, Semi-Conductors.                     | J. Lavrischaff    | 7-17-58 |
| 1520-C3 EE568 | H. P. Distributed Amplifiers. Proposed Modification. | C. N. Wittingstad | 8-6-58  |
| 1520-10 EE567 | Electronic Pulse Area Integrator.                    | W. W. Goldsworthy | 7-16-58 |