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Radiation Laboratory
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# LIST OF UNCLASSIFIED REPORTS RECEIVED AND ISSUED BY THE UCRL INFORMATION DIVISION DURING THE PERIOD OF NOVEMBER 1 - 15, 1958

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Radiation Laboratory
University of California
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*AEC-tr-2419 Researches on the Mechanism of the Action of Isonicotinic Hydrazide; its Relationship to Vitamin $B_6$, by W. Caliari, S. Garattini, and A. Leonardi. Trans. from Giornale Italiano di Chemioterapia 2, 32-40 (1955).

*AEC-tr-2452 Type of Changes in Structure and Enzymatic Activity of Plastids in the Ontogenetic Cycle of Plant Development, by N. M. Sisakian, V. I. Biriuzova, and A. M. Kobiakova. Trans. from Biokhimiia 16, 449-52 (1951).

*AEC-tr-2453 Isolation of Protein from Plastids and its Characterization, by N. M. Sisakian, E. N. Bezinger, and E. B. Kuvaeva. Trans. from Akademiia Nauk S.S.S.R. Doklady 87, 113-5 (1952).

*AEC-tr-2454 Polyphenoloxidase and Peroxidase Activity in Isolated Plastids, by N. M. Sisakian and E. B. Kuvaeva. Trans. from Akademiia Nauk S.S.S.R. Doklady 62, 121-4 (1948).

*AEC-tr-2456 Action of Heavy Water on the Reaction of Photoreduction of Chlorophyll and the Photochemical Activity of the Substance of Green Leaves, by A. A. Krasnovskii and G. P. Brin. Trans. from Akademiia Nauk S.S.S.R. Doklady 96, 1025-8 (1954).

*AEC-tr-2461 Types of Union of Enzymes with the Protein Complex of Plastids, by N. M. Sisakian and A. M. Kobiakova. Trans. from Biokhimiia 17, 368-75 (1952).

*AEC-tr-2462 Structure of Plastids and Activity of Enzymes, by N. M. Sisakian, A. M. Zolkover, and V. I. Biriuzova. Trans. from Akademiia Nauk S.S.S.R. Doklady 60, 1145-8 (1948).

*AEC-tr-2468 Respiratory Exchange of Animal Livers Treated with Isonicotinic Hydrazide Ini, by N. Canal and S. Garattini. Trans. from Giornale Italiano di Chemioterapia 2, 63-70 (1955).

*Microcards

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|---|---|---|---|
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| *AEC-tr-3234 | The Effect of Ionizing Radiation on the Proteins of Structural Elements of the Cytoplasma of the Liver Cells, by L. I. Ilyina, V. O. Blohina, and M. S. Uspenskaia. Trans from Medizinskaia Radiologiia 2, 23-30 (1957). | | |
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## CHEMISTRY

*AEC-tr-2260 The Diffusion of Sb and Sn in the Simiconductor SbZn, by B. I. Boltaks. Trans. from Akademiia Nauk S.S.S.R. Doklady 100, 901-3 (1955).

*AEC-tr-2285 Separation, by Ion Exchange, of Traces of Actinium-227 from a Large Amount of Lanthanum, by Yang Jeng Tsong. Trans. from Journal de Chimie Physique et de Physico-Chimie Biologique 47, 805-6 (1950).

*AEC-tr-2297 A Simple Method for Computation of Approximate Values of Vibrational Frequencies in Isotopic Molecules, by Josef Plíva and Bohdan Schneider. Trans. from Chemicke Listy 49, 149-57 (1955).

*AEC-tr-2310 "Fractional" Peaks in the Mass-Spectrum of Hydrogen, by N. N. Tunitskii, R. M. Smirnova, and M. B. Tikhomirov. Trans. from Akademiia Nauk S.S.S.R. Doklady 101, 1083-4 (1955).

*AEC-tr-2311 Study of $Tb^{160}$ Emission, by L. Ia. Shavtalov. Trans. from Akademiia Nauk S.S.S.R. Seriia Fizicheskaia. Isvestiia 17, 503-6 (1953).

*AEC-tr-2312 Beta Spectrum of $Re^{186}$, by N. M. Anton'eva, A. A. Bashilov, B. S. Dzhelepov and L. S. Chervinskaia. Trans. from Akademiia Nauk S.S.S.R. Seriia Fizicheskaia. Izvestiia 17, 507-10 (1953).

*AEC-tr-2313 On the Influence of Holes in the Crystal Lattice on the Electrical Resistivity of Metals, by B. G. Lazarev and O. N. Ovcharenko. Trans. from Akademiia Nauk S.S.S.R. Doklady 100, 875-8 (1955).

*AEC-tr-2315 Concentration of Isotopes by Very Rapid Electromigration on Paper, by André Bonnin, Marius Chemla, and Pierre Sue. Trans. from Académie des Sciences, Paris. Comptes Rendus 241, 40-2 (1955).

*Microcards

*AEC-tr-2353 Organic Reactions of Fluorine in Modern Chemistry, by Zdzislaw Szymusik. Trans. from Chemik 7, 279-81 (1954).

*AEC-tr-2354 On the Oxidation of Metallic Uranium, by Jean Loriers. Trans. from Académie des Sciences, Paris. Comptes Rendus 234, 91-3 (1952).

*AEC-tr-2376 Mechanism of the Formation of Nitrous Acid from Nitric Acid and Nitrogen Dioxide, by François-Michel Lang, Thérèse Magdalena, and Jean-Claude Montaigne. Trans. from Académie des Sciences, Paris. Comptes Rendus 237, 714-5 (1953).

*AEC-tr-2377 Determination and Formation of Oxide Layers on Aluminum, by W. D. Treadwell and A. Obrist. Trans. from Helvetica Chimica Acta 26, 1816-28 (1943).

*AEC-tr-2389 Stratification in the Molten Reciprocal Systems of Groups I and II Elements, by M. L. Sholokhovich, D. S. Lesnykh, G. A. Bukhalova, and A. G. Bergman. Trans. from Akademiia Nauk S.S.S.R. Doklady 103, 261-3 (1955).

*AEC-tr-2392 Diffraction of Molecules, by D. I. Blokhintsev. Trans. from Zhurnal Eksperimental'noi i Teoreticheskoi Fiziki 8, 1249-54 (1938).

*AEC-tr-2398 Purification of Hydrocarbons as Solvents for Ultraviolet Spectroscopy, by Gerhard Hesse and Hermann Schildknecht. Trans. from Angewandte Chemie 67, 737-9 (1955).

*AEC-tr-2405 Relations Between the Anharmonicity Constants and the Frequencies of Isotopic Molecules, by L. M. Sverdlov. Trans. from Akademiia Nauk S.S.S.R. Doklady 94, 451-4 (1954).

*Microcards

*AEC-tr-2406 Thermographic Method of Determining the Constants of the Chemical Equilibrium of the Reciprocal Fused Systems, by K. Tovmas'ian. Trans. from Akademiia Nauk S.S.S.R. Doklady 77, 429-32 (1951).

*AEC-tr-2407 Purification of Solvents for Spectrographic Purposes. Part II, by M. Pestemer. Trans. from Angewandte Chemie 67, 740-1 (1955).

*AEC-tr-2421 Topology of Reciprocal Complex Formations in Ternary and Quaternary Systems, by A. G. Bergman and G. A. Bukhalova. Trans. from Akademiia Nauk S.S.S.R. Institut Obshchei i Neorganischeskoi Khimii. Sektor Fiziko-Khimicheskogo Analiza. Izvestiia 19, 33-40 (1949).

*AEC-tr-2422 On the Characteristic Properties of the Chemical Diagrams of the Stable Elements of Ternary and Quaternary Reciprocal Systems, by A. P. Palkin. Trans. from Akademiia Nauk S.S.S.R. Institut Obshchei i Neorganicheskoi Khimii. Sektor Fiziko-Khimicheskogo Analiza. Izvestiia 19, 120-5 (1949).

*AEC-tr-2423 Electric Conductivity, Viscosity and Density of the Fused Binary Salt Systems with a Simple Eutectic, by I. P. Vereshchetina and N. P. Luzhnaia. Trans. from Akademiia Nauk S.S.S.R. Institut Obshchei i Neorganicheskoi Khimii. Sektor Fiziko-Khimicheskogo Analiza. Izvestiia 25, 188-207 (1954).

*AEC-tr-2458 The Inhibition of the Combustion of Mg and its Alloys, by Robert Delavault. Trans. from Académie des Sciences, Paris. Comptes Rendus 221, 498-500 (1945).

*AEC-tr-2463 Investigation of Complex Formation in Solutions by the Method of Proton Resonance, by A. I. Rivkind. Trans. from Akademiia Nauk S.S.S.R. Doklady 100, 933-6 (1955).

*Microcards

*AEC-tr-2476 Liquid Cyclone as a Hydraulic Classifier, by Naoya Yoshioka and Yutaka Hotta. Trans. from Kagaku Kikai 19, 632-40 (1955).

*AEC-tr-2480 Physico-Chemical Investigation of the Fused $AgNO_3$ - $KNO_3$ System, by V. D. Poliakov. Trans. from Akademiia Nauk S.S.S.R. Institut Obshchei i Neorganicheskoi Khimii. Sektor Fiziko-Khimicheskogo Analiza. Izvestiia 26, 147-55 (1955).

*AEC-tr-2481 Physico-Chemical Investigation of the Fused $AgNO_3$ - $HgI_2$ System, by V. D. Poliakov. Trans. from Akademiia Nauk S.S.S.R. Institut Obshchei i Neorganicheskoi Khimii. Sektor Fiziko-Khimicheskogo Analiza. Izvestiia 26, 191-7 (1955).

*AEC-tr-2484 Electric Conductivity of the Binary $LiNO_3$ - $RbNO_3$ and $AgNO_3$ - $RbNO_3$ Systems in Fusions, by P. I. Protsenko. Trans. from Akademiia Nauk S.S.S.R. Institut Obshchei i Neorganicheskoi Khimii. Sektor Fiziko-Khimicheskogo Analiza. Izvestiia 26, 173-9 (1955).

*AEC-tr-2501 The Heat Conductivity of Aqueous Solutions of Strong Electrolytes, by L. Riedel. Trans. from Chemie-Ingenieur-Tecknik 23, 59-64 (1951).

*AEC-tr-2503 Heat Conductivity Determinations with Sodium and Potassium Lyes of Different Concentration and Temperature, by L. Riedel. Trans. from Chemie-Ingenieur-Technik 22, 54-6 (1950).

*AEC-tr-2527 Equilibrium Reaction Between Calcium, Magnesium, and Their Fused Chlorides, by Hélène Ostertag. Trans. from Académie des Sciences, Paris. Comptes Rendus 240, 1085-7 (1955).

*Microcards

*AEC-tr-2548 Complex Ions. IX. Titration of Metals with Ethylenediamine Tetraacetic Acid $H_4Y$. End Point Indication by pH Effects, by G. Schwarzenbach and W. Biedermann. Trans. from Helvetica Chimica Acta 31, 459-65 (1948).

*AEC-tr-2895 A Process of Producing a Dielectricum Basically Containing Magnesium Titanate and a Condenser Manufactured from the Above Mentioned Substance. Trans. from Hungarian Patent no. 138,379, by János Albert (to Nagybátony-Ujlaki Egyesult Imparmüvek R. T.), April 15, 1958.

*AEC-tr-3039 Use of the Method of Admixtures in Spectral Analysis, by E. N. Vinnichenko, A. N. Zaidel', and N. I. Kaliteevskii. Trans. from Leningrad. Universitet. Vestnik 9, no. 11. Seriia Matematiki, Fiziki i Khimii, No. 4, 119-25 (1954).

*AEC-tr-3157 The Separation of Germanium and Magnesium Isotopes in a Small Electromagnetic Circulator, by V. M. Gusen, D. V. Chkuaseli, and M. I. Guseva. Trans. from Atomnaia Energiia 3, 215-21 (1957).

*AEC-tr-3208 Interaction Between Cerium and Hydrogen, by V. I. Miheev and M. E. Kost. Trans. from Akademiia Nauk S.S.S.R. Doklady 115, 100-2 (1957).

*AEC-tr-3224 Production of $AlCl_3$ from Alumina or other Aluminium Compounds. Trans. from Gmelins Handbuch der anorganischen Chemie. 8 aufl. System-Nummer 35. B. 1-2.(Aluminum Compounds). Berlin, Verlag Chemie, 1934, p. 166-70.

*AEC-tr-3232 The Kinetics of the Reaction Between Calcium and Hydrogen, by V. A. Shushunov and I. A. Shafiev. Trans. from Akademiia Nauk S.S.S.R. Doklady 78, 1181-4 (1951).

AEC-tr-3307 Problems of the Marcoule Plutonium Plant and Their Solutions, by R. Galley. Trans. from Énergie Nucléaire 2, 2-20 (1958).

*Microcards

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| NP-7007 | Development of Prototype Nuclear Radiation Resistant Engine Oil. Quarterly Progress Report No. 2 [for] June Through August, 1958. | Shell Dev. Co., Emeryville, Calif. | n.d. |
| *NP-tr-2 | On the Mechanism of the Action of Non-Polar Reagents in the Flotation of Coal, by V. I. Klassen and I. N. Plaksin. Trans. from Akademiia Nauk S.S.S.R. Doklady 95, 853-5 (1954). | | |
| *NP-tr-3 | On the Etching of Decomposition of Glasses by Ionic Bombardment, by G. V. Spivak, A. I. Krokhina, and L. V. Lazareva. Trans. from Akademiia Nauk S.S.S.R. Doklady 104, 579-80 (1955). | | |
| *NP-tr-5 | Stimulation of Branched Chain Reactions by the Action of Penetrating Radiations in the Initial Period of the Development of the Process, by N. M. Emanuel'. Trans. from Akademiia Nauk S.S.S.R. Doklady 111, 1286-9 (1956). | | |
| *NP-tr-7 | On the Relation Between the Viscosity and Molecular Strucuture of Liquids, by A. Z. Golik and D. N. Karlikov. Trans. from Akademiia Nauk S.S.S.R. Doklady 114, 361-4 (1957). | | |

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| *NP-tr-18 | The Diffusion of Fission Xenon from Uranium Metal, by Karl Erik Zimen and L. Dahl. Trans. from Zeitschrift für Naturforschung 12a, 167-9 (1957). | | |
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| *AEC-tr-2317 | The Temperature Field in a Steel Vessel at High Pressure, by L. F. Vereshchagin and Ia. A. Kalashnikov. Trans. from Akademiia Nauk S.S.S.R. Doklady 99, 745-8 (1954). | | |
| *AEC-tr-2471 | Method of Determining the Stresses in a Circular Cylinder by M. Mesnager. Trans. from Académie des Sciences, Paris. Comptes Rendus 169, 1391-3 (1919). | | |
| *AEC-tr-3246 | Flow in Steam-Producing, Parallel-Connected Tubes. Influence of Tube Nozzles on the Water Circulation, by Heinrich Vorkauf. Trans. from Archiv für Wärmewirtschaft und Dampfkesselwesen 18, 75-7 (1937). | | |
| AERE-M/M-202 | The Influence of Neutron Energy Spectrum on the Production of Irradiation Damage. | M. W. Thompson | 8-58 |
| AERE-M/TN-52 | Selected Unclassified Abstracts on Radiation Damage in Solids (1945-1957). | O. Flint, comp. | 6-58 |
| AERE-R/R-2645 | Valve Stem Cooling. | G. B. Bishop | 7-58 |
| IDO-16486 | Transfer Functions of Heat Exchangers and Heat Exchange Processes Applicable to Nuclear Reactors. | S. R. Gossmann<br>Phillips Pet. Co.<br>Atomic Energy Div.,<br>Idaho Falls, Idaho | 10-9-58 |
| IGR-TN/CA-886 | A Demountable Vacuum-Tight Pipe Coupling with Facilities for Remote Operation. | W. P. White<br>U.K.A.E.A. Industrial Group. Capenhurst Works,<br>Capenhurst, Ches. England | 1958 |

*Microcards

## GEOSCIENCES

*AEC-tr-2384 The Transition of Zircon into the Metamict State, by K. K. Zhirov. Trans. from Akademiia Nauk S.S.S.R. Doklady 85, 889-91 (1952).

*Microcard

## METALLURGY AND CERAMICS

*AEC-tr-2232 On the Elastic Twinning of Metals, by V. I. Startsev and V. M. Kosevich. Trans. from Akademiia Nauk S.S.S.R. Doklady 101, 861-4 (1955).

*AEC-tr-2277 Poisson's Coefficient in the Plastic Range, by A. M. Zhukov. Trans. from Akademiia Nauk S.S.S.R. Obdelenie Tekhnicheskikh Nauk. Izvestiia 1954, no. 12, 86-91.

*AEC-tr-2318 The Change of Coordination Number on the Melting of Metals, by O. Ia. Samoilov. Trans. from Akademiia Nauk S.S.S.R. Doklady 83, 447-50 (1952).

*AEC-tr-2338 Micrographic Aspects of Polygonization in Uranium, by Marcel L. Englander and Pierre A. Jacquet. Trans. from Académie des Sciences, Paris. Comptes Rendus 237, 262-4 (1953).

*AEC-tr-2339 Observation of Polygonization in Uranium by X-Ray Diffraction, by Adrienne R. Weill and Pierre A. Jacquet. Trans. from Académie des Sciences, Paris. Comptes Rendus 237, 1002-3 (1953).

*AEC-tr-2375 Corrosion of Aluminum Alloys in Superheated Steam, by Leon Guillet and M. Ballay. Trans. from Académie des Sciences, Paris. Comptes Rendus 189, 551-3 (1929).

*AEC-tr-2379 The Alodine Process, A New Protective Process for Aluminum and its Alloys, by A. Pollack. Trans. from Metall 5, 434-6 (1951).

*AEC-tr-2432 The Diffusion of Chromium in Nickel Base Solid Solutions, by P. L. Gruzin and G. B. Fedorov. Trans. from Akademiia Nauk S.S.S.R. Doklady 105, 264-7 (1955).

*AEC-tr-2445 Aluminum Working and Oils, by Karl Krekeler. Trans. from Aluminium 17, 37-9 (1934).

*Microcards

| | | | |
|---|---|---|---|
| *AEC-tr-2474 | On the Influence of Pressure on the Interdiffusion of Metals in Connection with the Effect of Pore Formation, by Ia. E. Geguzin. Trans. from Akademiia Nauk S.S.S.R. Doklady 106, 839-40 (1956). | | |
| *AEC-tr-2505 | Mechanical Resistance of Alumina Coatings and its Influence on the Surface Tension of Molten Metal, by Albert Portevin and Paul Bastien. Trans. from Académie des Sciences, Paris. Comptes Rendus 202, 1072-4 (1936). | | |
| *AEC-tr-2522 | Thermodynamic Analysis. II. The Heat Content Curve of a Material from a Single Calorimetric Experiment, by Willy Oelsen, Karl Heinz Rieskamp, and Olaf Oelsen. Trans. from Archiv für das Eisenhüttenwesen 26, 253-66 (1955). | | |
| *AEC-tr-3200 | Electromagnetic Pumps Without Moving Parts for the Conduction of Liquid Metals, by Julius Steiner and Hans Hohn. Trans. from Chemie-Ingenieur-Technik 28, 405-10 (1956). | | |
| AERE-M/R-2544 | Interdiffusion Behavior of Copper and Uranium. | I. J. Bear, A. D. Le Claire | 6-51 |
| AERE-M/R-2579 | A Study of the Kinetics of Crystallisation of Copper from Liquid Bismuth Solutions. | D. H. Kerridge | 6-58 |
| ANL-5676 | Preliminary Analysis of Fission-Induced Dimensional Changes in Single Crystals of Uranium. | S. H. Paine, J. H. Kittel | 10-58 |
| ANL-5790 | Metallurgy Division. Quarterly Report April, May and June 1957. | | 7-58 |
| ANL-5795 | "Pin-Cushion" Irradiation of Cast Uranium-Plutonium Alloy Specimens. | S. H. Paine, F. L. Brown | 10-58 |
| CRMet-794 | Creep of Magnesium Alloy AZ80-T5 at Low Temperatures. | L. G. Bell Atomic Energy of Canada Ltd. Chalk River Project, Chalk River, Ont. | 9-58 |

*Microcards

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|---|---|---|---|
| CRMet-801 | The Effect of Quenching and Neutron Irradiation on Internal Friction of a Super Purity Al-5% Mg Alloy. | W. G. Nilson<br>Atomic Energy of Canada Ltd. Chalk River Project, Chalk River, Ont. | 9-58 |
| HW-55958 | The Effect of Reactor Atmosphere on Zirconium and Zirconium Alloys. | R. G. Wheeler | 5-6-58 |
| HW-56843 | Transformation Kinetics of Plutonium. Part II. A Study of the Gamma to Beta to Alpha and Alpha to Beta to Gamma Transformations. | R. D. Nelson | 7-18-58 |
| IDO-16475 | Radiation Damage Studies Program. ETR Loop Materials Progress Report III. | H. T. Watanabe<br>Phillips Pet. Co.<br>Atomic Energy Div.,<br>Idaho Falls, Idaho | 9-15-58 |
| IGR-TN/C-583 | The Tensile Properties of Niobium. | H. G. Vaughan,<br>R. G. Rose<br>U.K.A.E.A., Industrial Group. Culcheth Labs.,<br>Culcheth, Lancs, England | 1958 |
| IGRL-T/C-87 | The Protection of the Surfaces of Metals with High Melting Points to Improve Their Annealing Properties at High Temperatures, by H. Buckle. Trans. from Zeitschrift für Metallkunde 37, 81-6 (1946). | U.K.A.E.A. Industrial Group. Windscale Works,<br>Sellafield, Cumb., England | |
| ISC-977 | Metallurgy. Semi-Annual Summary Research Report [for] July. December, 1957. | Ames Lab., Ames, Iowa | 10-15-58 |
| ISC-1037 | Brittle-Ductile Transition in Vanadium. | B. A. Loomis,<br>O. N. Carlson<br>Same | 3-58 |
| LA-2231 | The Preparation of Plutonium Alloys in the Reduction Process. | A. N. Morgan, Jr. | 10-10-58 |
| NBS-5946 | The Uranium-Platinum System. Final Report. | J. J. Park,<br>D. P. Fickle | 6-19-58 |

| | | | |
|---|---|---|---|
| NMI-1200 | Shape Changes of Internal Surfaces in Extrusion. | W. B. Nowak, E. J. Rapperport | 3-21-58 |
| NMI-1208 | The Corrosion of Zirconium Alloys in 900°F Steam. | J. P. Pemsler | 8-18-58 |
| *NP-tr-6 | On the Influence of Impurities on the Rate of Self Diffusion, by M. E. Ianitskaia, A. A. Zhukhovitskii, and S. Z. Bokshtein. Trans. from Akademiia Nauk S.S.S.R. Doklady 112, 720-3 (1957). | | |
| NYO-7921 | Application of Ultrasonic Vibration to the Compaction of Metal Powders. | J. G. Thomas, J. B. Jones Aeroprojects, Inc. Westchester, Penna. | 6-58 |
| ORNL-2582 | The Effect of Simulated Weld Thermal Cycles on the Properties of Hastelloy B. | E. G. Thompson | 10-30-58 |
| SEP-251 | Fundamentals of Diffusional Bonding-III. Third Annual Progress Report for June 30, 1957 to June 30, 1958. | L. S. Castleman, L. Seigle | 6-30-58 |
| SRO-11 | Research and Development in the Field of Thorium Chemistry and Metallurgy. Volume I. Preparation of Electrolytic Cell Feed for Production of Thorium Metal. Final Report. | C. E. Fisher, J. L. Wyatt Horizons, Inc., Cleveland | 6-30-56 |

## PHYSICS

*AEC-tr-2374 Experimental Research on Magnetic Rotatory Polarization, by Henri Becquerel. Excerpted and trans. from Annales de Chimie et de Physique, Ser. 5, 12, 1-87 (1877).

*AEC-tr-2447 Concerning the Flow of Greatly Rarefied Gases Through Tubes of Arbitrary Length, by P. Clausing. Trans. from Annalen der Physik, Ser. 5, 12, 961-89 (1932).

*AEC-tr-2466 Spectrum and Energy Levels of the Polonium Atom, by E. A. Vernyi, A. I. Zaidel', and K. G. Shvebel'blit. Trans. from Akademiia Nauk S.S.S.R. Doklady 104, 710-2 (1955).

*AEC-tr-2536 Numerical Solution of Boundary-Value Problems in Ordinary Differential Equations, by E. J. Nystrom. Trans. from Acta Mathematica 76, 157-84 (1945).

*AEC-tr-2551 The Difference Method for Solving Differential Equations of Non-Stationary Heat Conduction, Diffusion and Impulse Propagation, by Ernst Schmidt. Trans. from Forschung auf dem Gebiete des Ingenieurswesen 13, 177-85 (1942).

*AEC-tr-2931 Solution of Certain Problems on Detonation in a Medium with Variable Density, by I. M. Iavorskaia. Trans. from Akademiia Nauk S.S.S.R. Doklady 111, 783-6 (1956).

*AEC-tr-3154 Characteristics and Operating Mechanism of Germanium - Hole Alpha Counters, by A. V. Airapetiants and S. M. Ryvkin. Trans. from Zhurnal Tekhnicheskoi Fiziki 27, 95-105 (1957).

*AEC-tr-3195 A Standard of Density for Thermal Neutrons Which Can be Reproduced Easily, by René Cohen and Roland Barloutaud. Trans. from Académie des Sciences, Paris. Comptes Rendus 238, 2413-4 (1954).

*Microcards

| | | | |
|---|---|---|---|
| *AEC-tr-3245 | The Continuous and Continuously-Discrete X-Ray Spectrum (According to Kramers' Theory and According to Wave Mechanics), by A. W. Maue. Trans. from Annalen der Physik, Ser. 5, 13, 161-90 (1932). | | |
| AERE-A/R-2661 | The Dynamical Design of Bunchers for Linear Accelerators. | T. R. Walsh | 8-58 |
| CERN-58-24 | International Meeting on Instruments for the Evaluation of Photographs Held at Cern, Geneva on September 15 and 16, 1958. Summary of Proceedings. | | 10-1-58 |
| CREL-776 | Transistorized Counting Systems. 10. A General Purpose Transistor Power Supply. | F. S. Goulding, R. A. McNaught Chalk River Project. | 9-58 |
| CWR-478 | Uranium 235 Cross Sections from a Breit-Wigner Analysis. | D. L. Kavannagh Curtiss-Wright Corp., Res. Div., Quehanna, Penna. | 6-10-57 |
| CWR-4040 | Elastic and Inelastic Neutron Cross Sections. | D. L. Kavanagh, C. E. Mandeville Curtis-Wright Corp. Research Div., Quehanna, Penna. | 6-58 |
| ISC-940 | Ionization Yields for Fission Fragments. | N. G. Utterback, C. L. Hammer, G. H. Miller Ames Lab., Ames, Iowa | 8-57 |
| MISC-1958-404 | Low-Power Pulse Transformers. | T. F. Wimette Mass. Inst. of Tech., Cambridge. Servo-mechanisms Lab. | 12-47 |
| MIT-SSMT-QPR#30 October 15, 1958 | Quarterly Progress Report No. 30. | Mass. Inst. of Tech., Cambridge. Solid-State and Molecular Theory Group | 10-15-58 |

*Microcard

| | | | |
|---|---|---|---|
| NARF-58-37T | Calculated Gamma Ray Spectra From $U^{235}$ Fission Products. | J. F. Scoles<br>Convair, Fort Worth, Tex. | 8-29-58 |
| NBS-6013 | Fourth Summary Report of Boulder Laboratories for Year Ending June 30, 1958. | | n.d. |
| NYO-2267 | Inelastic Scattering of Protons by Magnesium, Chronium, and Other Elements from 3.5 to 7 Mev. | F. D. Seward<br>Rochester, N. Y. Univ. | 9-8-58 |
| NYO-2268 | The V-A Theory and the Decay of the $\Lambda$ Hyperon. | S. Okubo,<br>R. E. Marshak,<br>E. C. G. Sudarshan<br>Same | 9-8-58 |
| NYO-2270 | Quantum Numbers for a System of Nucleons and Antinucleons. | A. Gamba,<br>E. C. G. Sudarshan,<br>Same | 9-8-58 |
| NYO-2273 | Representations of the Dirac Equation. | S. K. Bose,<br>A. Gamba,<br>E. C. G. Sudarshan<br>Same | 10-17-58 |
| NYO-6486 (MH-VIII) | Notes on Magneto-Hydrodynamics. VIII. Nonlinear Wave Motion. | K. O. Friedrichs,<br>H. Kranzer<br>N.Y. Univ., N. Y. Atomic Energy Commission Computing and Applied Mathematics Center | 7-31-58 |
| ORNL-2127(Pt.2) (Vol. 3) | Uranium-235 Fission-Product Production as a Function of Thermal Neutron Flux, Irradiation Time, and Decay Time. II. Summations of Individual Chains, Elements, and the Rare-Gas and Rare-Earth Groups. | J. O. Blomke,<br>M. F. Todd | 11-3-58 |
| ORNL-2521 | Measurement of Electron Flux in a Media Bombarded by X-Rays. (M. S. Thesis) | D. R. Nelson,<br>R. D. Birkhoff,<br>R. H. Ritchie, et al. | 10-29-58 |

| | | | |
|---|---|---|---|
| ORNL-2581 | The Effect of Partially Ionized Impurities on a DCX Device. | R. G. Alamiller, Jr. | 10-30-58 |
| ORNL-2609 | Neutron Physics Division. Annual Progress Report for Period Ending September 1, 1958. | | 10-29-58 |
| ONRL-73-58 | 1958 Symposium on Photo-Electric Image Devices as Aids to Scientific Observation [Held at London, September 3 - 5, 1958] . | D. J. Zaffarano Office of Naval Research, London | 10-3-58 |
| *SCL-T-151 | Cross Section of the Reaction $He^3(n,p)$ for the Neutron Energies up to 25 K.E.V. (Kilo Electron Volt) and the Excited $He^4$ Level, by A. A. Bergman, A. I. Isakov, Iu. P. Popov, and F. L. Shapiro. Trans. of a report issued by Akademiia Nauk S.S.S.R. Institut Fiziki im. P. N. Lebedeva. | | |
| SCTM-363-58(24) | Systems of Numerical Notation. | S. S. Harris Sandia Corp., Albuquerque, N. Mex. | 10-16-58 |
| *T-81(RAND) | The Equation of State of Hydrogen at High Pressures, by A. A. Abrikosov. Trans. from Astonomicheskii Zhurnal 31, 112-23 (1954). | Rand Corp., Santa Monica, Calif. | |
| *TT-717 | Photofission of Heavy Cosmic Ray Particles Occurring Under the Action of Solar Radiation, by G. T. Zatsepin. Trans. from Akademiia Nauk S.S.S.R. Doklady 80, 577-8 (1951). | Nat'l Res. Council of Canada, Ottawa | |
| USNRDL-TR-255 | A Low Range Beta-Gamma Survey Meter. | M. H. Eklund, G. A. Work | 2-3-58 |
| USNRDL-TR-258 | X Y Plotting with the IBM Model 026 Printing Card Punch. | R. Ehat, R. A. Taylor | 7-15-58 |
| USNRDL-TR-266 | $C^{12}$,(n.p) $B^{12}$ Cross Section for 14.9- to 17.5-Mev Neutrons. | W. E. Kreger, B. D. Kern | 9-23-58 |

*Microcards

| | | | |
|---|---|---|---|
| USNRDL-TR-272 | Penetration of Plane Normal and Plane Slant Gamma Rays Through Slabs of Aluminum and Steel. I. Angular and Energy Distributions (Experimental Pulse Height). | N. E. Scofield, R. L. Lynn, W. E. Kreger | 10-31-58 |
| WAPD-201 | Thermal Stresses in Bodies of Revolution. | J. P. deVries, R. A. Oerth | 7-58 |
| YAEC-86 | JOFIT - A Least Squares Bessel $J_0$ Fitting Program for the IBM-704 Computer. | J. Jedruch Westinghouse Elec. Corp. Atomic Power Dept., Pittsburgh | 7-23-58 |

## REACTOR SCIENCE

| | | | |
|---|---|---|---|
| AERE-M/R-2580 | A Cryostat for Reactor Irradiations in Liquid Nitrogen. | M. W. Thompson, D. W. Jefferson-Loveday | 6-58 |
| AERE-M/R-2623 | Preparation and Circulation in Laboratory Scale Loops of Slurries of Thoria in Bismuth. | G. H. Broomfield, J. M. Matthews | 7-58 |
| AERE-R/R-2620 | Neutron Flux Measurements in the Core of Lido. | J. W. Weale, H. R. McK. Hyder, A. Green, et al. | 7-58 |
| AERE-T/M-166 | An Investigation into the Causes of a Discrepancy in the Theoretically Predicted $K_\infty$ for Enriched Uranium Heavy Water Lattices. | K. T. Spinney | 6-58 |
| APEX-414 | Nuclear Test Gage Safety Experiment. | J. N. Renaker, V. J. Stratton | 2-58 |
| ASAE-S-8 | Plutonium Recycle in the Calder Hass Type Reactor. | L. J. Barbieri, J. W. Webster, K. T. Chow American-Standard. Atomic Energy Div., Mountain View, Calif. | 1-1-58 |
| CF-58-9-12 | Nuclear Gas Engine. | A. P. Fraas ORNL, Tenn. | 9-25-58 |
| CF-58-9-75 | Fuel Resources, Types of Fuels, and Fabrication. | J. W. Ullmann Same | 9-29-58 |
| CRNE-803 | Highly Reliable Control Systems for a 200-MW Power Reactor. | E. Siddall Atomic Energy of Canada Ltd. Chalk River Project, Chalk River, Ont. | 7-58 |
| FLR-1 | System Evaluation of the Flowable Solids Reactor. Phase I. Summary Report. Fuel Study. | R. C. Oliver, H. K. Orbach M. R. Dusbabek, et al. Fluor Corp., Ltd., Los Angeles | 1-28-58 |

| | | | |
|---|---|---|---|
| GEAP-3073 | Metal-Water Reactions. I. A Method for Analyzing a Nuclear Excursion in a Water Cooled and Moderated Reactor. | E. Janssen, W. H. Cook, K. Hikido | 10-15-58 |
| IDO-10034 | Estimated Unit Cost of Cobalt from a Cobalt-60 Production Reactor. | | 10-20-57 |
| IDO-16421 | Cobalt-60 Production Reactor. | Phillips Pet. Co. Atomic Energy Div., Idaho Falls, Idaho | 10-20-57 |
| IDO-16453 | Source Strength Information for Shielding and Stack Effluent Calculations. A Standard Practices Guide. | L. H. Jones Same | 10-3-58 |
| IDO-16474 | Quarterly Progress Report for MTR-ETR Technical Branches. First Quarter - 1958. | R. G. Fluharty, ed. Same | 9-2-58 |
| IDO-16481 | Quarterly Progress Report for MTR-ETR Technical Branches, Second Quarter - 1958. | P. W. Healy, ed. Same | 9-8-58 |
| KAPL-2000-3 | Reactor Technology. Quarterly Report No. 6. Chemistry. | | 10-58 |
| NP-6985 | Progress Report 48 for August and September, 1958. | W. J. Posey, ed. MSA Research Corp., Callery, Penna. | 10-16-58 |
| WAPD-188 | Forced-Convection Heat Transfer Burnout Studies for Water in Rectangular Channels and Round Tubes at Pressures Above 500 PSIA. | R. A. Debortoli, S. J. Green, B. W. LeTourneau, et al. | 10-58 |
| WAPD-MRP-75 | Pressurized Water Reactor (PWR) Project. Technical Progress Report for the Period June 24, 1958 to August 23, 1958. | | n.d. |
| WKNL-106 | Maintenance Studies for an LMFR and LMFRE. | Associated Nucleonics, Inc., Garden City, N. Y. | 1-3-58 |
| YAEC-72 | Studies of Thermal Behavior Under Loss of Pump Power Transient Conditions. | A. Bornia, Westinghouse Electric Corp. Atomic Power Dept., Pittsburgh | 9-22-58 |

## MISCELLANEOUS

| | | | |
|---|---|---|---|
| ANL-5929 | Additions to the Library. Report for the Period October 1 - 15, 1958. Technical Reports and Books. | P. A. Schulze | n.d. |
| ANL-5938 | Additions to the Library. Report for the Period October 16 - 31, 1958. Technical Reports and Books. | P. A. Schulze | n.d. |
| ASTIA-U58-17 | Technical Abstract Bulletin. Bulletin No. U58-17. | | 11-1-58 |
| PR-REPORTS-8 | Reports Distributed by the Scientific Document Distribution Office. Progress Report for July, 1958 to September 30, 1958. | Atomic Energy of Canada Ltd. Chalk River Project, Chalk River, Ont. | n.d. |
| TID-3522 | Peaceful Uses of Nuclear Explosions. A Literature Search. | | 10-58 |

## UCRL REPORTS ISSUED DURING NOVEMBER 1 - 15, 1958

| | | | |
|---|---|---|---|
| UCRL-8237 | Effect of Densely Ionizing Radiations on Dry Preparations of Lysozyme, Trypsin, and DNase. | T. Brustad | 8-58 |
| UCRL-8298 | Evidence for the Transition of a $K^0$ Into a $K^0$ Meson. | F. S. Crawford, Jr., M. Cresti, M. L. Good, K. Gottstein, E. M. Lyman, F. T. Solmitz, M. L. Stevenson, H. Ticho | 9-29-58 |
| UCRL-8354 Rev. | Angular Distribution of Photopions from Hydrogen. | E. A. Knapp, R. W. Kenney, V. Perez-Mendez | 10-3-58 |
| UCRL-8362 Rev. | The Radiation Chemistry of the Symmetrical Dichloroethylenes. | J. H. Futrell, A. S. Newton | 9-58 |
| UCRL-8375 | Gamma Rays Following the Beta Decay of Rare-Earth Alpha Emitters. | K. S. Toth, J. O. Rasmussen | 9-58 |
| UCRL-8377 | The Stray Radiation Field of the Bevatron. | A. R. Smith | 7-16-58 |
| UCRL-8386 Abstract | Beam Profile Indicator. | H. G. Jackson, D. A. Mack, C. Wiegand | 7-21-58 |
| UCRL-8416 Rev. | Effective Mean Free Path of Antinucleons in Nuclear Matter. | J. R. Fulco | 10-29-58 |
| UCRL-8417 | Notes on Statistics for Physicists. | J. Orear | 8-13-58 |
| UCRL-8428 | Study of Inhibition of Azaserine and Diaza-Oxo-Norleucine (DON) on the Algae Scenedesmus and Chlorella. | P. Y. F. van der Meulen, J. A. Bassham | 8-58 |
| UCRL-8446 | A New Terbium Isotope, $Tb^{152}$. | K. S. Toth, K. T. Faler, J. O. Rasmussen | 10-58 |

| | | | |
|---|---|---|---|
| UCRL-8456 | Life Span of Individual Yeast Cells. | R. K. Mortimer,<br>J. R. Johnston | 9-17-58 |
| UCRL-8457 | Bio-Organic Chemistry Quarterly Report - June, July, August 1958. | | 9-18-58 |
| UCRL-8476 | An Ultracentrifugal Method for the Determination of Serum Lipoproteins. | L. Del Gatto,<br>F. T. Lindgren,<br>A. V. Nichols | 9-58 |
| UCRL-8477 Abstract | Retention of $Sr^{90}$ and $Ca^{45}$ in Rhesus Monkeys. | P. W. Durbin,<br>M. H. Williams,<br>M. W. Parrott,<br>H. B. Jones | 9-58 |
| UCRL-8481 | Spectral Representations in Perturbation Theory. II. Two-Particle Scattering. | R. Karplus,<br>C. M. Sommerfield,<br>E. H. Wichmann | 10-7-58 |
| UCRL-8501 | Nucleon-Momentum Distribution in Helium. | W. F. Stubbins | 10-15-58 |
| UCRL-8512 | Leptonic Decays of Hyperons. | P. Nordin,<br>J. Orear,<br>L. Reed,<br>A. H. Rosenfeld,<br>F. T. Solmitz,<br>H. D. Taft,<br>R. D. Tripp | 10-24-58 |
| UCRL-8514 | Round Trip from Space. | M. Calvin | 10-29-58 |
| UCRL-8515 | Transistorized Linear Pulse Amplifiers. | S. C. Baker | 10-27-58 |
| UCRL-8516 | Nanosecond Pulse Transformers. | C. N. Winningstad | 10-28-58 |
| UCRL-8520 | Heat Capacity of Superconducting Zinc. | N. E. Phillips | 10-58 |
| UCRL-8521 | Beta Decay of the $\Lambda$. | F. S. Crawford, Jr.<br>M. Cresti,<br>M. L. Good,<br>G. R. Kalbfleisch,<br>M. L. Stevenson,<br>H. Tiche | 10-58 |

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|---|---|---|---|
| UCRL-8522 | The First Isolations of the Transuranium Elements - An Historical Survey. | J. C. Wallmann | 11-58 |
| UCRL-8532 | List of Unclassified Reports Received and Issued by the UCRL Information Division During the Period of October 16 - 31, 1958. | | 11-4-58 |
| UCRL-Translation 386 | The Use on Inductances with Ferrite Cores in the Circuits of the High-Power High-Frequency Cascades of a Proton Synchrotron, by I. Kh. Neviazhskii, G. M. Drabkin, V. F. Trubetskoi, and A. S. Temkin. Trans. from Radiotekhnika i Elektronika 1, 954-64 (1956). | | |
| UCRL-Translation 387 | Automatic Tuning of the Circuit of the Final Cascade of the High Frequency Generator of a 10 Billion EV Proton Synchrotron, by G. M. Drabkin, L. M. Gurevich, B. M. Gutner, and N. K. Kaminskii. Trans. from Radiotekhnika i Elektronika 1, 965-73 (1956). | | |
| UCRL-Translation 388 | Systems Controlling the Processes of Injection and Acceleration of Particles in a Proton Synchrotron, by A. L. Mints, S. M. Rubchinskii, M. M. Veisbein, and A. A. Vasil'ev. Trans. from Radiotekhnika i Elektronika 1, 974-85 (1956). | | |
| UCRL-Translation 389 | Measurement of the Instantaneous Frequency of Frequency-Modulated Oscillations, by S. M. Rubchinskii, A. A. Vasil'ev, V. F. Kuz'min, and N. I. Fedorenko. Trans. from Radiotekhnika i Elektronika 1, 986-1000 (1956). | | |
| UCRL-Translation 390 | Measuring the Instantaneous Values of the Intensity of Variable Magnetic Fields, by S. M. Rubchinskii, M. P. Zel'dovich, and S. S. Kurochkin. Trans. from Radiotekhnika i Elektronika 1, 1001-13 (1956). | | |
| UCRL-Translation 401 (L) | Contribution to the Determination of Aerosols and Vapors of Beryllium and its Compounds in the Atmosphere, by Kvetoslav Spurný and Pravoslav Bílek. Trans. from Pracovní Lékarství 7, 17-22 (1955). | | |

ABSTRACTS FOR THE NEW YORK MEETING OF THE AMERICAN PHYSICAL SOCIETY - JANUARY, 1959

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| UCRL-8533 Abstract | Charge Exchange of $K^+$ Mesons (I). | M. N. Whitehead, R. W. Birge, L. T. Kerth, R. E. Lanou, Jr. | 11-58 |
| UCRL-8534 Abstract | Charge Exchange of $K^+$ Mesons (II). | R. E. Lanou, Jr., R. W. Birge, L. T. Kerth, M. N. Whitehead | 11-58 |
| UCRL-8535 Abstract | Scattering Cross Sections of $K^+$ Mesons on Protons and Neutrons. | T. F. Kycia, L. T. Kerth, R. G. Baender | 11-58 |
| UCRL-8536 Abstract | Spin-Orbit Coupling in $K^+$-Meson-Proton Scattering. | L. T. Kerth, T. F. Kycia | 11-58 |
| UCRL-8537 Abstract | Nuclear Reactions in Light Nuclei Induced by $He^3$ Ions. | S. S. Markowitz, J. M. Hall | 11-7-58 |
| UCRL-8541 Abstract | The Ion Magnetron | J. M. Wilcox, J. D. Gow, L. Smith | 11-58 |
| UCRL-8542 Abstract | Charge-Exchange Scattering of $K^-$ Mesons on Protons. | P. Nordin, A. Rosenfeld, F. Solmitz, R. Tripp, M. Watson | 11-58 |
| UCRL-8546 Abstract | Nuclear Spins of $Br^{80m}$ and $Br^{80}$. | E. Lipworth, H. L. Garvin, T. M. Green | 11-58 |

## INFORMAL REPORTS ISSUED

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| UCID 442 (7911-32 M3) | 72" Hydrogen Bubble Chamber - Expansion System - Expansion Line Design. | F. Barrera, H. P. Hernandez | 5-6-57 |
| UCID-443 (7911-32 M12.1) | 72" Hydrogen Bubble Chamber - 6" Rupture Disc on the Expansion Line. | F. Barrera | 2-1-58 |
| UCID-444 (7911-32 M13) | 72" Hydrogen Bubble Chamber - Expansion System - Relief Valves. | F. Barrera | 2-14-58 |
| UCID-445 (7911-40 M10) | 72" Hydrogen Bubble Chamber Fabrication - Hydrogen Refrigeration - Relief Valve Test (2-1/2" and 3") | F. Tanforan | 3-6-58 |
| UCID-447 (60-143) | Magnet Current Regulator and Metering Circuit. | K. D. Jenkins | 5-1-52 |
| UCID-448 (7911-01 M36) | 72" Bubble Chamber - Work List for First Shutdown. | H. P. Hernandez | 9-26-58 |
| UCID-449 (7911-01 M37) | 72" Bubble Chamber Disassembly. | L. R. Lucas | 8-27-58 |
| UCID-450 (3310-01 EE377) | Magnetic Field Plotting. | G. M. Farly | 1-13-56 |
| UCID-451 (4331-91 M1) | High Current Cyclotron Development - Model Magnet - Cost Summary. | R. Burleigh | 7-31-58 |
| UCID-452 (4331-10 M1) | High Current Cyclotron Development - RF System - Dee Contours - Part A. | E. Kelly, R. Burleigh | 7-22-58 |
| UCID-453 (7910-28 MT-3) | 8" Bore 16" Long Quadrupole Lens Magnetization. | L. G. Ratner | 8-19-58 |
| UCID-454 (7911-30 M54) | 72" Hydrogen Bubble Chamber; Chamber Bolt Stress. | L. R. Lucas | 9-9-58 |
| UCID-455 (4311-03 CRG-12) | Transmission Line Blocking Capacitor. | Q. A. Kerns | 3-27-57 |

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| UCID-456 (Spec. No. 1342) | Preliminary Specifications for Potting Disc Capacitors in Epoxy. | F. A. Kirsten | 9-15-58 |
| UCID-457 (7911-01 M7) | 72" Hydrogen Bubble Chamber - General Thermal Conductivity, Normal Deuterium Gas. | H. P. Hernandez | 5-21-57 |
| UCID-458 (7911-30 M55) | 72" Bubble Chamber - Vapor Pressure Bulbs. | J. Mark | 10-21-53 |
| UCID-459 (7911-01 M38) | 72" Bubble Chamber - General Second Mechanical Shop Work Estimate for the Liquid Hydrogen Run. | H. P. Hernandez | 10-21-58 |
| UCID-460 (7318-23 CVI) | Hilac: Preliminary Tests on the Mercury Vapor Jet Stripper for the Heavy Ion Accelerator. | J. F. Steinhaus | 5-56 |
| UCID-461 (4330-01 M2) | High Current Cyclotron Development Tunnel, Rough Cost Estimate. | R. Burleigh | 9-12-58 |
| UCID-462 (4331-01 M1) | High Current Cyclotron Development Magnet Trimming Coil Study No. 1. | R. Burleigh | 9-10-58 |
| UCID-463 (7307-01 M33A) | Bevatron Experimental Facilities - 8" - 20,000 Gauss Air Gap "H" Magnet - Low Power. | K. Lou | 9-2-58 |
| UCID-464 (4313-02 M2) | 10"/15" Bubble Chamber - Indium - Toxic Properties. | J. Mark | 9-9-57 |
| UCID-466 (7059-73 M1) | Bubble Chamber Building - Construction 72" Bubble Chamber 22' - 3" Spherical Tank Acceptance Test Spec. M272A. | H. P. Hernandez | 10-24-58 |

MECHANICAL ENGINEERING

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| 7302-02 M97 | Bevatron - Magnet Core - Consolidation of Representative Yoke Steel Magnetic Test Samples. | G. Lambertson, A. Glicksman, W. W. Salsig | 10-14-58 |
| 7302-02 M98 | Bevatron Magnet Core - Yoke and Leg Slab Steel Carbon, Manganese, and Silicon Content. | A. Glicksman, A. Roberts | 10-30-58 |
| 7302-04 M29 | Bevatron Magnet Power Supply - Observed Torque Reduction - West Generator - Coil Brace Assembly - First Maintenance Period. | K. Lou | 11-5-58 |
| 7910-78 M9 | Equipment Fabrication - Bent Crystal Gamma Ray Spectrometer Coordinates for Crystal Holder and Lapping Blocks. | A. D. Carneiro | 11-5-58 |