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REACTORS



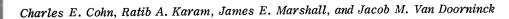
FUEL HANDLING SYSTEM FOR CORE ELEMENTS OF A PEBBLE-BED 334 REACTOR

U. Hennings

U. Hennings is presently head of engineering at Brown Boveri/Krupp in planning, development, and construction of HTR-power plants. In 1955 he received the Diplom-Ingenieur in mechanical engineering from Technische Hochschule Braunschweig. Before joining Brown Boveri/Krupp, he served for three years as a project engineer for oil engines with Klöckner-Humboldt-Deutz in Köln.

COMPUTER-AIDED CALIBRATION OF A FINE AUTOROD

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Charles E. Cohn (upper left) (PhD, physics, University of Chicago, 1957) has been at Argonne National Laboratory since 1956 and is an associate physicist in the Reactor Physics Division. His major research interests are reactor noise and application of computer techniques to reactor experiments. Ratib A. Karam (upper right) (PhD, nuclear engineering, University of Florida, 1963) has been at Argonne National Laboratory since 1963 and is an associate nuclear engineer in the Reactor Physics Division. His major research interests are fast reactors, neutron spectra, and reactor kinetics. James E. Marshall (lower left) (BS, engineering mechanics, University of Michigan, 1964) has been at Argonne National Laboratory since 1966 and is a scientific assistant in the Reactor Physics Division. Jacob M. Van Doorninck (Natuurkundig Ingenieur, Technological University, Delft, Holland) was at Argonne National Laboratory during 1967 and 1968 as a visiting scientist in the Reactor Physics Division.

FUELS



IN-CORE STUDY OF THE MECHANICAL INTERACTION BETWEEN 347 FUEL AND CLADDING

G. Kjaerheim and E. Rolstad

G. Kjaerheim (left) (BS, University of Idaho, 1958) is currently responsible for the development of in-core instruments. For the last $6\frac{1}{2}$ years he has been concerned with the design and analysis of in-reactor experiments. E. Rolstad (BS, mechanical engineering, University of London, 1958) having spent 10 years in the nuclear field has been at OECD Halden since 1962, planning reactor experiments.



DEPOSITION OF IODINE ON LOW CHROMIUM-ALLOY STEEL

Clyde E. Milstead, Wayne E. Bell, and J. H. Norman

Wayne E. Bell (right) (PhD, University of California) is in charge of the reactor chemistry section at Gulf General Atomic Incorporated. Much of his research has been in the high-temperature chemistry field. J. H. Norman (left) (PhD, University of Wisconsin, 1965) has been at GGA for nine years and heads the high-temperature chemistry group. He has published mainly in the field of high-temperature Knudsen-cell mass spectrometry. Clyde E. Milstead, with the reactor chemistry group at GGA for nine years, specializes in studies of the interaction of cesium, strontium, and iodine with graphite and steel.

RADIOISOTOPES



AN APPROACH TO THE DESIGN OF A MULTIFUEL-CAPSULE RADIO- 367 ISOTOPE THERMOELECTRIC GENERATOR 367

Frederick A. Schumann

Frederick A. Schumann (MS, Drexel Institute of Technology) has been responsible for the structural mechanics activities conducted at the Nuclear Systems Division of Isotopes, Inc., a Teledyne Company, for the past six years. His activities have been centered on thermoelectric and thermionic generator systems for space power applications and he is presently enrolled in a doctoral program at Catholic University.

INSTRUMENTS



SENSITIVE, FAST RESPONSE REACTOR COOLANT IMPURITY MEASURE- 374 MENT INSTRUMENT

T. Roger Billeter and R. R. Schemmel

T. Roger Billeter (right) (MSEE, University of Washington, 1961) a senior research engineer at Battelle-Northwest Instrument Research and Development Section, has primary responsibility for development of temperature and impurity measuring instruments. R. R. Schemmel (MS, physics, University of North Dakota, 1968), a research scientist, works in the Solid State Physics component of the laboratory.

ANALYSIS



DETERMINATION OF ¹⁶O IN MICROCRYSTALLINE CARBON BY IN- 383 DIRECT NEUTRON ACTIVATION ANALYSIS

James S. Mattson, John C. Crittenden, and Harry B. Mark, Jr.

John C. Crittenden (left) is an undergraduate and James S. Mattson (right) is a graduate student in the Department of Chemistry at the University of Michigan. Harry B. Mark, Jr. (center), associate professor of chemistry, University of Michigan, has research interests in electrochemistry, surface chemistry, activation analysis, and kinetics.

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DEUTERIUM ANALYSIS BY PHOTONEUTRON DETECTION

Kenneth D. George and Henry H. Kramer

Henry H. Kramer (left) (PhD, Indiana University, 1960), as manager of the Nucleonics Research and Development Program at Union Carbide's Sterling Forest Research Center, is concerned with radioisotope production and applications and with nuclear analytical systems. Kenneth D. George (MSc, University of New Zealand, 1940), as senior research scientist, is staff consultant in nuclear reactor technology and the physical sciences.

APPLICATIONS OF NEUTRON-ACTIVATION ANALYSIS TO THE MEA-SUREMENT OF THE EVAPORATION RATE OF SOLIDS IN THE RANGE OF 10^{-7} TO 10^{-9} g/(cm² sec)

I. A. Maslov, V. A. Lucknitsky, N. M. Karnaukhova, and G. I. Karaganova

I. A. Maslov (far right) is chief of the Activation Analysis Laboratory of the Ioffe Physico-Technical Institute of the USSR Academy of Sciences. Maslov, with his co-workers, G. I. Karaganova (far left), V. A. Lucknitsky (right), specialists in reactor neutron-activation analysis, and N. M. Karnaukhova (left), specialist in evaporation of high-temperature cathode materials, has been working about seven years on the application of activation-analysis methods to the measurement of the evaporation rate of high-temperature materials.

TECHNIQUES



THE USE OF ¹⁸⁴W AS A THERMAL FLUX MONITOR AT HIGH TEMPERA- 393 TURES

Lauren L. Ball, Paul J. Richardson, and Dean W. Sheibley

Lauren L. Ball (left) (BA, Western State College, 1951) specializes in remote chemistry and emission spectrography. He joined NASA in 1961. Earlier, he was employed by Union Carbide and General Electric in the Aircraft Nuclear Propulsion Program. Paul J. Richardson (MS, chemistry, University of Kansas, 1951) specializes in fuel burnup, mass spectrometry, and counting techniques. He was employed at Hanford and in the Aircraft Propulsion Program before joining NASA in 1961. Dean W. Sheibley (right) (MA, chemistry, Oberlin College, 1964) is head of the radiochemistry section at NASA's Plum Brook Reactor. He has been employed by NASA since 1959.

DEPARTMENTS

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