CURRENT PAPERS IN NUCLEAR ENERGY

REACTOR PHYSICS

- Descrete integral transport theory extended to the case with surface sources. Jonsson A. R. et al. Atomkernenergie 24 (2), 1974.
 - (Physics and Computer Analysis Dept., Nuclear Power Systems Div., Combustion Engineering, Inc., Windsor, Conn., U.S.A.)
- Isotropic boundary condition in cylinder lattice with finite height. Fukai Y. Atomkernenergie 24 (2), 1974.
 - (Nippon Atomic Industry Group Co. NHG Nuclear Research Lab. 4-1 Ukishima-cho, kawasaki-ku, Kawasaki, Japan.)
- An investigation of fuel-moderator combinations for thermal thermionic reactors in space crafts. Sahin S. Atomkernenergie 24 (2), 1974. (Karadeniz Teknik Universitesi Trabzon/Turkey.)
- The effects of delayed neutrons in the neutron pulse propagation problem. Om Pal Singh. Atomkernenergie 24 (2), 1974.

 (Reactor Physics and Shielding Section, FBTR-
 - Design Group, RRC Kalpakkam-603 102 India.)
- On a synthetic scattering kernel in neutron thermalization. El-Wakil S. A. et al. Atomkernenergie 24 (2), 1974.
- Check of the accuracy of the heat-resistance approximation in VO₂ fuel dynamic behaviour. Fiebig R. Atomkernenergie 24 (2), 1974.
 - (Gesellschaft fur kernenergieverwertung in Schiffbau und Schiffahrt mbH—Institut fur Physik-Geesthacht.)
- Investigation in the dynamics of the reactor of the nuclear powered ship Otto Hahn. Fiebig R. Atomkernenergie 24 (2), 1974.
 - (Gessellschaft fur kernenergieverwertung in Schiffbau und Schiffahrt mbH—Institut fur Physik-Geesthacht.)
- Criticality design of a large capacity plutonium melting crucible. Schuske C. L. and Dickinson D. *Nucl. Technol.* 25 (1), Jan. 1975.
 - (Rocky Flats Division, P.O. Box 888, Golden, Colorado, U.S.A.)

- An experimental study of two coupled reactors. Thayer G. R. et al. Nucl. Technol. 25 (1), Jan. 1975.
 - (Univ. of Illinois, Nuclear Engng Program. Urbana, Illinois 61801, U.S.A.)
- A theory of Resonance-group self-shielding. Segev M. Nucl. Sci. Engng 56 (1), Jan. 1975. (Soreq Nuclear Research Centre, Dept. of Theoretical Physics and Applied Mathematics, Yaune, Israel.)
- Synthetic kernel for anisotropic scattering and its application to calculations of fast neutron spectrum and spatial moments. Yamamura Yasunori et al. Atomkernenergie 24(1), Dec. 1974. (Department of Applied Physics, Ocayama College of Science, Ridai-cho, Okayama-shi, Japan.)
- Variance and covariance in neutron counting statistics from the backward Kolmogorov equations with delayed neutrons. Arcipiani B. and Marseguerra M. Atomkernenergie 24 (1), Dec. 1974.
- A code to calculate the transient, three-dimensional power distribution in large LWR cores. Schmidt A. Atomkernenergie 24 (1), Dec. 1974. (Laboratorium fur Reactorregelung und Anlagensicherung und Lehrstuhl fur Reactordynamik und Reactorsicherheit der Technischen Universitat, München.)
- Repulsive core effects in (d,p) stripping reactions using Tabakin potential. Osman A. and Goumry N. Atomkernenergie 24 (1), Dec. 1974. (Physics Dept. Faculty of Science., Cairo University, Cairo, Egypt.)
- A source-multiplication reactivity. Greenspan E. Nuclear Sci. Engng 56 (1), Jan. 1975. (Nuclear Research Centre-Negev P.O. Box 9001, Beer-Sheva, Israel.)
- An improved series representation of Doppler-broadened resonance absorption. Ginsberg A. and Becker M. Nuclear Sci. Engng 56 (1), Jan. 1975.
 - (Consolidated Edison Co. of New York, 4, Irving Place, New York, New York 10003, U.S.A.)

- A generalized perturbation theory and variational principle for multiple ratios of linear and bilinear functionals. Greenspan E. *Nucl. Sci. Engng* **56** (1), Jan. 1975.
 - (Atomic Energy Commission, Nuclear Research Centre-Negev, P.O. Box 9001, Beer-Sheva, Israel.)
- On the time-dependent Green's function for monoenergetic neutron transport. Ganapol B. D. Atomkernenergie 24 (1), Dec. 1974.

(Argonne National Lab. 9700 Cass. Avenue, Argonne, Illinois 60439, U.S.A.)

- On the reactor noise due to coolant flow fluctuations. Om Pal Singh Atomkernenergie 24 (1), Dec. 1974. (FBTR-Design Group Reactor Research Centre, Kalpakkam-603102, Tamil Nadu, India.)
- A generalized source-multiplication method for determining reactivity. Greenspan E. Nucl. Sci. Engng 56 (1), Jan. 1975.

 (Nuclear Research Centre-Negey P.O. Box 9001)

(Nuclear Research Centre-Negev, P.O. Box 9001, Beer-Sheva, Israel.)

Compact tables of functions for use in shielding calculations. Shure K. and Wallace O. J. Nucl. Sci. Engng 56 (1), Jan. 1975.

(Bettis Atomic Power Laboratory, P.O. Box 79, West Mifflin, Pennsylvania 15122, U.S.A.)

- Delayed-neutron data for reactor-physics analysis. Tuttle R. J. Nucl. Sci. Engng 56 (1), Jan. 1975. (Rockwell International Corporation, Atomics International Division, Canoga Park, California 91304, U.S.A.)
- Joint probability distribution of neutron counts in reactor noise analysis. Marseguerra M. Nucl. Sci. Engng 56 (1), Jan. 1975. (Comitato Nazionale Energia Nucleare, Centro

di Calcolo, Bologna, Italy.)

Constructors, Inc.)

Investigation of the reaction ⁹Be(d, Po) ¹⁰Be in the deuteron energy range of 0.9 to 2.5 MeV. Bondouk I. I. et al. Atomkernenergie **24** (1), Dec. 1974.

(Nuclear Physics Dept. Atomic Energy Est. Cairo, Egypt.)

SAFETY

Underground nuclear plant siting: a technical and safety assessment. Crowley J. H. et al. Nuclear Safety 15 (5), 1974.

(Advanced Eng. Dept. United Engineers and

- Computer codes for analyzing nuclear accidents. Winton M. L. Nuclear Safety 15 (5), 1974.
- A progress report on the use of acoustic emission to detect incipient failure in nuclear pressure vessels. Bell R. L. Nuclear Safety, 15 (5), 1974.
- The nuclear safety program at Dow Chemical Company's Rocky Flats plant. Schuske C. L. et al. Nuclear Safety 15 (5), 1974. (Nuclear Safety Dept. Dow Chemicals Rocky Plant Plant.)

MATERIALS

- Fuel stack dimensional variations in fast reactor pins under irradiation. Calza-Bini A. et al. Nuclear Technol. 25 (1), Jan. 1975.
 (Ceramics Tech. Lab., CNEN Casaccia Nuclear Research Centre, Rome, Italy.)
- Effect of high-helium content on stainless-steel swelling. Wiffen F. N. and Bloom E. E. Nuclear Technol. 25 (1), Jan. 1975.

 (Oak Ridge Nat Lab Metals and Ceramics

(Oak Ridge Nat. Lab. Metals and Ceramics Division Oak Ridge, Tennessee 37830, U.S.A.)

- Time-dependent solution to interstitial diffusion in a temperature gradient. Lee C. E. and Wallace T. C. Nuclear Technol. 25 (1), Jan, 1975. (Univ. of California, Los Alamos Scientific Lab., Los Alamos, New Mexico 87544, U.S.A.)
- Corrosion of steels in carbon dioxide; design engineering implications and assessment. Brown J. J. Br. Nucl. Energy Soc. 14 (1), Jan. 1975. (CEGB Generation Development and Construction Division, Barnwood.)
- The metallurgy of Alloy 800. Stone P. G. et al. J. Br. nucl. Energy Soc. 14 (1), Jan. 1975. (British Steel Corporation, Special Steels Division.)
- Effect of condition of recrystallization heat treatment on high-temperature mechanical properties of an irradiated AISI 316 Austenitic steel. Kawasaki S. and Hishinuma A. J. nucl. Sci. Technol. 11 (11), Nov. 1974.

(Japan Atomic Energy Research Inst. Tokai-mura, Ibaraki-ken, Japan.)

Numerical analysis of Separative power of isotope Centrifuges. Nakayama W. and Torii T. J. nucl. Sci. Technol. 11 (11), Nov. 1974. (Mechanical Eng. Research Lab, Hitachi Ltd.

(Mechanical Eng. Research Lab, Hitachi Ltd. Kandatsu-machi Tsuchiura-shi, Ibaraki-Ken, Japan.)

Preliminary study on production on Xenon-133 from neutron-irradiated uranium-metal and Oxides by onidation. Tachimori S. and Amano H. J. nucl. Sci. Technol 11 (11), Nov. 1974. (Japan Atomic Energy Research Inst. Tokai-mura, Ibaraki-ken, Japan.)

Fragmentation of uranium dioxide after molten uranium dioxide-sodium interaction. Mizuta H. J. nucl. Sci. Technol. 11 (11), Nov. 1974. (Power Reactor and fuel Development Corp. Tokai-mura, Ibaraki-ken, Japan.)

HEAT TRANSFER AND FLUID DYNAMICS

Specific heat ratio of UF6 measured with a ballistic piston compressor. Sterrit D. et al. Nucl. Technol. 25 (1), Jan. 1975.

(University of Florida, 222 Nuclear Sciences Center, Gainesville, Florida 32611, U.S.A.)

Application of quasilinearization in laminar free convection on vertical plane. Darwish M. and Elsayed M. M. Atomkernenergie 24 (1), Dec. 1974.

Egyptian Atomic Energy Authority Reactor Dept. Cairo, Egypt.)

Flow separation at channel discontinuities. Markfort D. Atomkernenergie 24 (1), Dec. 1974. (Interatom, Bensberg.)

Turbulent heat transfer by downward flow of liquid-Bismuth in concentric annulus. Michiyoshi I. et al. J. nucl. Sci. Technol. 11 (11), Nov. 1974. (Dept. of Nuclear Engineering, Kyoto University, Yoshida, Sakyo-ku, Kyoto, Japan.)

FUSION

Thermonuclear microfission. Winterberg F. Nucl. Sci. Engng 56 (1), Jan. 1975. (University of Nevada System, Desert Research Institute, Reno, Nevada 89507, U.S.A.)

Some preliminary considerations of a molten-salt extraction process to remove tritium from liquid lithium fusion reactor blankets. Maroni V. A. et al. Nucl. Technol. 25 (1), Jan. 1975. (Argonne Nat. Lab. Chemical Eng. Division, 9700 South Cass Avenue, Argonne, Illinois 60439, U.S.A.)

Radioactivity induced in a Theta-Pinch fusion reactor. Dudziak D. J. and Krakowski R. A. Nuclear Technol. 25 (1), Jan. 1975.
(Los Alamos Scientific Lab., Univ. of California, P.O. Box 1663, Los Alamos, New Mexico 87544, U.S.A.)

The effects of trapped and untapped particles on an electrostatic wave packet. Espedal M. S. J. Plasma Phys. 12 (3), Dec. 1974. (Dept. of Applied Maths, University of Bergen.)

The use of quasi-normality assumptions in the theory of the two-dimensional guiding-centre plasma. Cook I. J. Plasma Phys. 12 (3), Dec. 1974.

(UKAEA, Culham Laboratory, Abingdon, Berkshire.)

Application of the theory of mixing systems to nonlinear Landau damping. Krlin L. J. Plasma Physics 12 (3), Dec. 1974.
(Inst. of Plasma Physics, Czechoslovak Academy

(Inst. of Plasma Physics, Czechoslovak Academy of Sciences, Nademlynska 600, Prague 9, Czechoslovakia.)

Two-stream instability in plasma for arbitrary propagation. Aggarwak S. S. and Talwar S. P. J. Plasma Physics 12 (3), Dec. 1974. (Dept. of Physics and Astrophysics, University of Delhi.)

Ion-acoustic instability of the positive column, Ilic D. B. et al. J. Plasma Physics 12 (3), Dec. 1974. (Institute for Plasma Research, Stanford University.)

NUCLEAR FUEL

A computational technique to assess procedures for failed-fuel identification. McCormick N. J. Nucl. Sci. Engng 56 (1), Jan. 1975. (Science Applications, Inc., P.O. Box 10268, Palo Alto, California 94303.)

In-pile measurement of fuel-cladding conductance for pelleted and vipac-Zircaloy-2 sheathed fuel pins. Calza-bini A. et al. Nuclear Technol. 25 (1), Jan. 1975.

(Ceramics Tech. Lab. CNEN Casaccia Nuclear Research Centre, Rome, Italy.)

A mechanical explanation to the overpower failures. Rolstad E. *Nucl. Technol.* **25** (1), Jan. 1975. (Institutt for Atomenergi, OECD Halden Reactor Project, P.O. Box 173, N-1751 Halden, Norway.)

Redistribution of fuel and fission products in irradiated oxide fuel pins. Bramman J. J. and Powell H. J. J. Br. nucl. Energy Soc. 14 (1), Jan. 1975. (UKAEA, Dounreay Experimental Reactor Est.)

Delayed neutron technique for use in computer-controlled non-destructive determination of fissile material in reactor fuel elements. Eberle R. Atomkernenergie 24 (1), Dec. 1975. (Lehrstuhl und Institut fur Kerntechnik der TU Hannover.)

MISCELLANEOUS

PCRVs for BWRs—a new dimension in LWR exploitation. Margen P. H. et al. J. Br. nucl. Energy Soc. 14 (1), Jan. 1975.

(AB Atomenergi, Studsvik, Sweden.)

Studies of a mechanism for material wastage by sodium-water reaction jets. Tregonning K. et al. J. Br. nucl. Energy Soc. 14 (1), Jan. 1975. (UKAEA, Dounreay Experimental Reactor Est.)

Rate of liquid entrainment at the gas-liquid interface of a liquid submerged sonic gas jet. Chawla T. C. Nucl. Sci. Engng 56 (1), Jan. 1975.

(Argonne Nat. Lab. Reactor Analysis and Safety Div. 9700S Cass Avenue, Argonne, Illinois 60439, U.S.A.)

Evaluation of detector-efficiency and source-worth corrections for sub-critical reactivity measurements in a fast critical assembly. Kaiser R. E. *Nuclear Technol.* 25 (1), Jan. 1975. (Argonne Nat. Lab. Idaho Falls, Idaho 83401, U.S.A.)

Thermal sleeve failure and repairs—Indian Point No. 1 Nuclear Unit (285 MW). Flyn A. et al. Nuclear Technol. 25 (1), Jan. 1975. (Consolidated Edision Co. of New York, Incorporated 4, Irving Place, New York 10003, U.S.A.)

The integrated PWR for small and medium sized nuclear power plants. Harde R. et al. Nucl. Engng Int. 20 (224), Jan. 1975. (Interatom F.G.R.)

Developing worlds need for nuclear. Kovan D. Nuclear Engng Int. 20 (224), Jan. 1975.

Calibration of cascade impactor by two-stage method. Onata T. et al. J. nucl. Sci. Technol. 11 (11), Nov. 1974.

(Division of Health Physics and Safety, Japan Atomic Energy Research Inst., Tokai-mura, Ibaraki-ken, Japan.)

Application of sequential unconstrained minimization technique to LMFBR core design optimization problem. Kobayashi Y. et al. J. nucl. Sci. Technol. 11 (11), Nov. 1974.

(Dept. of Nuclear Engineering, Faculty of Engineering, Univ. of Tokyo, Nunkyo-ku, Tokyo,

Statistical estimation of distributions of physical quantities in nuclear fission. Yamamoto T. and Sugiyama K. J. nucl. Sci. Technol. 11 (11), Nov. 1974.

Japan.)

(Dept. of Nucl. Engng, Tohoku Univ., Aoba, Aramaki, Sendai-shi, Japan.)