

New Openings in reactor physics AND mathematics

AT THE KNOLLS
ATOMIC
POWER
LABORATORY

Physics work at KAPL divides about equally between theoretical and experimental investigations. Extensive computational and laboratory facilities are readily accessible to physicists and mathematicians whose broad mission is to generate concepts, data and methods for reactor design. The following openings are immediately available:

THEORETICAL REACTOR PHYSICISTS

A strong theoretical reactor physics program complements our experimental work and provides sound methodology and understanding in core and reactor systems design. The program includes—studies of neutron transport effects in static systems . . . statistical fluctuations studies of flux and power levels . . . evaluation of pulsed-neutron work for criticality and reactor parameter determination . . . investigation of nuclear-thermal interactions and non-linear effects in general . . . reactor kinetics studies. *Qualifications include a PhD in Theoretical or Nuclear Physics, Nuclear Engineering.*

EXPERIMENTAL REACTOR PHYSICISTS

The experimental reactor physics program is aimed at investigating the nuclear physics characteristics of new reactor designs currently under development. Activities include performance and analysis of critical experiments, utilizing several types of zero power reactors designed and built at KAPL . . . nuclear-thermal-hydraulic interaction studies . . . reactor kinetics studies . . . pulsed-neutron experiments with sub-critical lattices. *Qualifications include a PhD in Nuclear Physics, Nuclear Engineering or other appropriate discipline. Significant experience in lieu of PhD is acceptable.*

APPLIED MATHEMATICIANS

The major effort involves research in numerical analysis related to the solution of problems arising in the design of nuclear power plants, and development of improved techniques for solving reactor problems. Our Mathematicians also provide consultation on the formulation of programs involving application of large digital computers to this work. *PhD in Mathematics, plus pertinent experience.*

To apply, or gain additional information, write fully in strict confidence to Mr. G. L. Smallwood, Div. 51-K.

Knolls Atomic Power Laboratory

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PUBLISHING NEWS

Proceedings

The proceedings of the International School of Physics "Enrico Fermi", previously published as supplements to *Nuovo Cimento*, are now being published by Academic Press of New York under an agreement with the Italian Physical Society, sponsor of the School. The general editor for the series is G. Polvani, president of the Italian Physical Society. Publication by Academic Press commenced with *Ergodic Theories*, course 14 of the 1960 series. Other titles from the 1960 series are *Nuclear Spectroscopy*, *Physicomathematical Aspects of Biology*, *Topics of Radiofrequency Spectroscopy*, and *Physics of Solids (Radiation Damage in Solids)*.

Bibliographies

A bibliography of literature on the construction of laboratories and lecture rooms has been compiled by the Netherlands Instituut voor Documentatie en Registratuur (NIDER) working under a commission from the Committee for Scientific Research of the Organization for Economic Cooperation and Development (OECD). The publication, entitled *Laboratories and Lecture Rooms*, contains approximately 650 references to published material on architecture, safety, laboratory equipment, acoustics, heating and lighting, and related subjects.

Copies of the publication can be purchased for \$1 from OECD, Distribution and Sales Service, 33, rue de Franqueville, Paris 16, France.

A monograph and a bibliography on transition probabilities and a bibliography on soft x-ray spectroscopy have been compiled by the National Bureau of Standards and are available from the Superintendent of Documents, US Government Printing Office, Washington 25, D. C.

Experimental Transition Probabilities for Spectral Lines of Seventy Elements (NBS Mono. 53; \$4.25) gives transition probabilities or oscillator strengths for 25 000 spectral lines, about two-thirds of which are from spectra of neutral atoms, and one-third from spectra of singly ionized atoms. The values are derived from *Tables of Spectral-Line Intensities* (NBS Mono. 32) which reports the lines most commonly encountered in arc spectra between 2000 and 9000 Å.

Bibliography on Atomic Transition Probabilities (NBS Mono. 50; 35¢) is restricted to literature on atomic and ionic transition probabilities of discrete transitions, including permitted (electric dipole) and forbidden (magnetic dipole, electric quadrupole) lines. Also included is a supplementary list of papers dealing with transition probabilities from a general viewpoint, a table showing the availability of numerical material

on the individual atoms and ions, and a table of conversion factors.

Annotated Bibliography on Soft X-ray Spectroscopy (NBS Mono. 52; \$1) contains some 550 references covering the decade 1950-1960. Emphasis is on the application of soft x-ray spectroscopy to the study of valence-band electronic states in metals and alloys. Also listed are references to pertinent aspects of the apparatus and experimental problems and references of value in corroborating soft x-ray data with other results, such as energy-band calculations.

Apparatus Drawings

A bound volume containing the annotated shop drawings of thirty pieces of laboratory apparatus which were prepared under the Apparatus Drawings Project sponsored jointly by the American Association of Physics Teachers and the American Institute of Physics has just been published by Plenum Press. The project, initiated several years ago with the aid of a grant from the National Science Foundation, was carried out at the Institute under the direction of R. G. Marcley, who collected detailed information on special pieces of apparatus developed at various colleges and universities in the United States. The resulting drawings, together with descriptive notes, appeared in a number of issues of the *American Journal of Physics*, beginning in January 1960.

The present publication, entitled *Apparatus Drawings Project*, Vol. 1., is accompanied by a portfolio of 11" x 17" shop drawings. The complete set is priced at \$40. Orders or requests for additional information should be addressed to the Plenum Press, Inc., 227 West 17th Street, New York 11, N. Y.

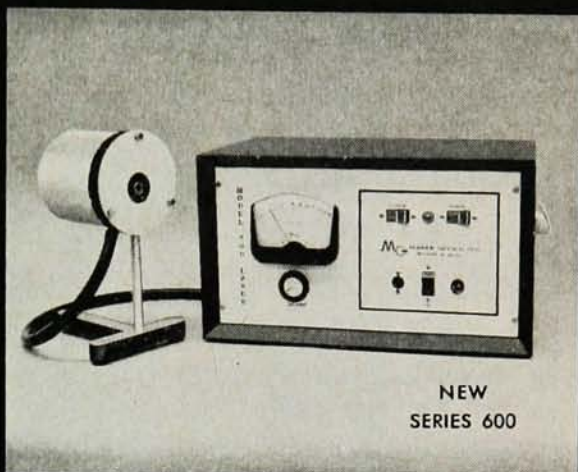
Documentation

The tenth report in the series *Current Research and Development in Scientific Documentation*, a semiannual publication containing descriptions of research and development projects in the field of scientific documentation and related areas, was released in October by the National Science Foundation.

The report covers the scientific documentation activities of some 450 projects carried out in 21 countries, including the United States, the Soviet Union, England, France, the Netherlands, the Federal Republic of Germany, Sweden, Israel, Italy, and Japan. It includes descriptions of projects concerned with the information needs of scientists, the uses made of scientific information, communication problems in science and technology, new methods for the storage and retrieval of information, mechanical trans-



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