AUTHORS AND PAPERS

The highly condensed summaries of papers and technical notes (below) are intended to assist the busy reader in determining the order in which to read the technical material. Biographical comments are for human interest.

RADIATION EFFECTS ON THERMOCOUPLES

Transient changes of as much as 18°F in readings of thermocouples located in operating reactors have been shown to be radiation induced. A possible mechanism involves changes in electron mobility in the two metals resulting from radiation-induced defects and self-annealing.

James H. Leonard (PhD, chemical engineering, University of Pittsburgh, 1960), shown on the left, is Associate Professor and Director of the Nuclear Engineering Program at the University of Cincinnati. Previously, he worked for Westinghouse on the design and control of the Shippingport reactor. Denes B. Hunkar, a Research Associate at the University of Cincinnati, specializes in instrument development. He received his degree in electrical and mechanical engineering from Műegyetem (Budapest, Hungary).

RADIATION STABILITY OF FUEL COATINGS

Coated-particle fuel stability is strongly influenced by irradiation temperature. In tests, "BISO"- and "TRIPLEX"-coated particles performed successfully at higher temperatures than anticipated in an HTGR.

Charles S. Luby, with the Metallurgy Department of General Atomic since 1960, has been concerned with the development and irradiation testing of high-temperature nuclear fuels. He received his MS in inorganic chemistry from San Diego State College.

CORROSION BY BOILING MERCURY

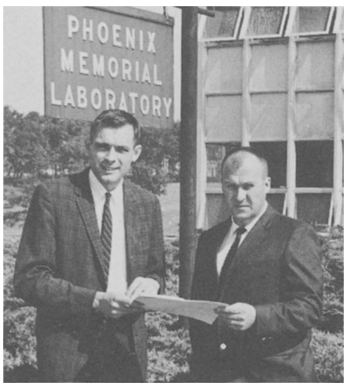
Corrosion by boiling mercury in a $2\frac{1}{4}$ Cr-1 Mo alloy steel loop operating at 315 to 703°C and 300 psi for 5×10^3 h was inhibited by Ti or Zr.

The authors are all members of the staff of Brookhaven National Laboratory's Metallurgy and Materials Science Division. Shown from left to right are A. H. Fleitman, A. J. Romano, and C. J. Klamut, Section Leader. They have written numerous papers in the past ten years in the field of liquid-metal corrosion including work with Bi and Hg as well as the alkali metals.

SELECTING LETTUCE FOR HARVEST

Lettuce is selected for harvest as it passes between a gamma source and detector. The detector output indicates the size of head and mass, from which density, an accurate measurement of its maturity, is determined.

Roger E. Garrett (MS, University of Missouri), shown at right, worked three years at John Deere Tractor Research before joining the staff of the University of California's Department of Agricultural Engineering in 1962. Wilson K. Talley, also at UC (Davis), has been on the faculty of the Department of Applied Science since 1963. His doctorate (UC, Berkeley) is in nuclear engineering.



REACTOR POWER-LEVEL MONITOR

A gaseous Cerenkov detector, used as a reactor power monitoring instrument, reliably detects power levels as low as 1 kW.

John Carpenter (left), Assistant Professor of Nuclear Engineering, University of Michigan, received his PhD from that department in 1963. Wayne Lehto (BS and MS, Michigan Technological University) is presently a PhD candidate at the University of Michigan.

SILICON DETERMINATION IN ROCKS

The silicon content of rock samples is determined with high precision and within minutes by counting gammas from ^{28}Al produced in samples by fast-neutron irradiation.

H. A. Vincent (left) (PhD, University of Arizona, 1964), is an Associate Chemist with the Nevada Mining Analytical Laboratory, University of Nevada. His research interests are electrochemistry and activation analysis. A. Volborth (PhD, University of Helsinki, 1954) is a Mineralogist with the Laboratory and Professor of Geology at the University of Nevada's Mackay School of Mines.