

OBITUARIES

Allan C. G. Mitchell

Allan C. G. Mitchell, professor and head of Indiana University's Physics Department, died in Bloomington on November 7 at the age of sixty-one.

A native of Houston, Texas, he studied as an undergraduate at the University of Virginia. With his father, who was director of the University's Astronomical Observatory, he participated in his youth in three eclipse expeditions.

Professor Mitchell was vigorously active both as an administrator and a scientist and his research interests were characteristically concerned with problems on the frontiers of physics. Between 1924 and 1927, while he was earning a doctorate in physical chemistry at the California Institute of Technology, the quantum-mechanical behavior of atomic structures presented the urgent problems. His first studies of the interactions of excited atoms with gases were made at Caltech and his work continued in this vein at Göttingen and Munich in 1927-28, at the Bartol Research Foundation, where he was a fellow from 1928 to 1931, and at New York University between 1931 and 1934. These studies resulted in a score of experimental and theoretical papers, and culminated in his collaboration with M. Zemansky in the writing of their book, *Resonance Radiation and Excited Atoms*. There has recently been a great resurgence of interest in that early work because of the development of the laser and maser techniques.

Upon learning of the discovery of the neutron, Prof. Mitchell's interest shifted to neutron scattering, and between 1934 and 1938 he published a number of pioneering studies in that field. During the same years, he served as chairman of New York University's Physics Department.

When he came to Indiana University in 1938, Prof. Mitchell founded its nuclear physics laboratory. He led his young department in building one of the earliest cyclotrons and initiated work in nuclear spectroscopy. Both before and after World War II, he continued to develop this field through



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the various stages made possible by the discovery of more and more advanced techniques. At least fifty papers record his findings and the results obtained together with his students, particularly with regard to nuclear-level systems. He was one of the coauthors of the definitive compilation, *Beta- and Gamma-Ray Spectroscopy*, edited by K. Siegbahn.

The Indiana cyclotron, finished just in time to be put into service in the war effort, was used for some of the earliest work toward the release of "atomic energy" in nuclear reactors. Professor Mitchell directed this project between 1942 and 1944, first under the OSRD and then under the newly organized Manhattan District, and commuted to Chicago's Metallurgical Laboratory in the same period. His abilities in the administration of scientific work were then drawn upon to help

in the development of guided missiles and antiaircraft directors while he was associated with the Applied Physics Laboratory of Johns Hopkins University between 1944 and 1946. This experience led, in 1951, to his participation in Project Vista.

Professor Mitchell was an associate editor of the *Journal of Chemical Physics* from 1932 to 1934 and of *The Physical Review* from 1940 to 1943. He was elected to the Council of the American Physical Society for 1943-1947 and served on the executive board of the Argonne National Laboratory from 1948 to 1951. Professor Mitchell was most active in recent years in trying to bring a large accelerator to the Midwest, and he had just finished a third term as president of MURA (the Midwestern Universities Research Association) when death came.

Robert E. Rundle

A former president of the American Crystallographic Association, Robert E. Rundle, died in a Des Moines hospital on October 9 after having suffered a stroke. Dr. Rundle, a distinguished professor at Iowa State University and a senior chemist at the Ames Laboratory of the Atomic Energy Commission, was forty-seven at the time of his death. He had just returned from a trip abroad, having served in Prague as a visiting lecturer at the Czechoslovak Academy of Sciences.

He was born in Orleans, Neb., and was educated at the University of Nebraska. He received his BS degree there in 1937 and his master's degree in the following year. He continued his graduate studies at the California Institute of Technology, where he was awarded his doctorate in 1941, and then joined the staff of Iowa State University as an assistant professor of chemistry. With the exception of the year 1945-46, which he spent at Princeton University, he remained on the Ames faculty for his entire career. He became a full professor in 1946 and last June was

honored by the University with an appointment as distinguished professor in the College of Sciences and Humanities.

Although trained primarily in the techniques of x-ray diffraction by crystals, he was originally associated with the Plant Physiology Section of Iowa State's Chemistry Department. He managed nevertheless to apply diffraction techniques to the problems of the structure of starch and its deep blue complex with iodine, and thus produced what was probably the first substantial evidence for the existence of a helical structure in a natural product. After his return from Princeton in 1946, his work at Ames spread into most branches of inorganic solid-state chemistry and included investigations of intermetallic and interstitial compounds, hydrogen-bonded substances, compounds of uranium and thorium, and the so-called "electron-deficient" compounds. He expanded his experimental techniques to include neutron diffraction and magnetic measurements, and thus to observations on magnetic order in solids.

Dr. Rundle spent the 1958-59 academic year on leave of absence from Iowa State as a National Science Foun-

dation postdoctoral fellow at the Clarendon Laboratory, Oxford. In 1960, he went to Japan for a year as a Fulbright lecturer in Osaka.

A member of the American Crystallographic Association, Dr. Rundle served as that organization's president in 1958. He was a fellow of the American Physical Society.

Karl W. Brockman

Karl W. Brockman, senior physicist at the Institute for Nuclear Physics Research in Amsterdam, died at the M.D. Anderson Hospital in Houston, Texas, on September 24. He was thirty-seven years old.

Born in Fort Worth, he entered Rice University in 1943, interrupted his studies from 1944 to 1946 to serve in the Navy, and graduated with honors in 1949. He earned his PhD at Princeton University in 1953.

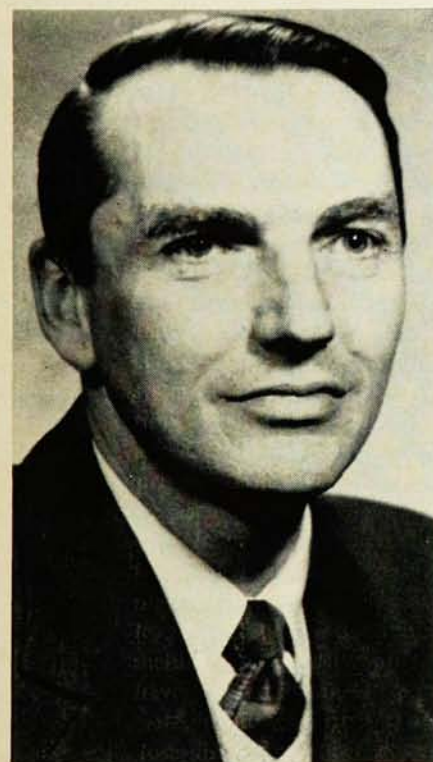
Dr. Brockman served as an instructor at Princeton until 1957, when he went to the Netherlands to join the Institute for Nuclear Physics Research. He became a member of the Institute's permanent staff as a senior physicist in 1959, and in that capacity he directed and supervised much of the research work on nuclear reactions. His main research interest centered around the few-nucleon systems, and in the last years of his life he was concerned with many of the fundamental problems in nucleon-nucleus interactions.

Dr. Brockman was a member of both the American Physical Society and the Netherlands Physical Society.

Clarence W. Kanolt

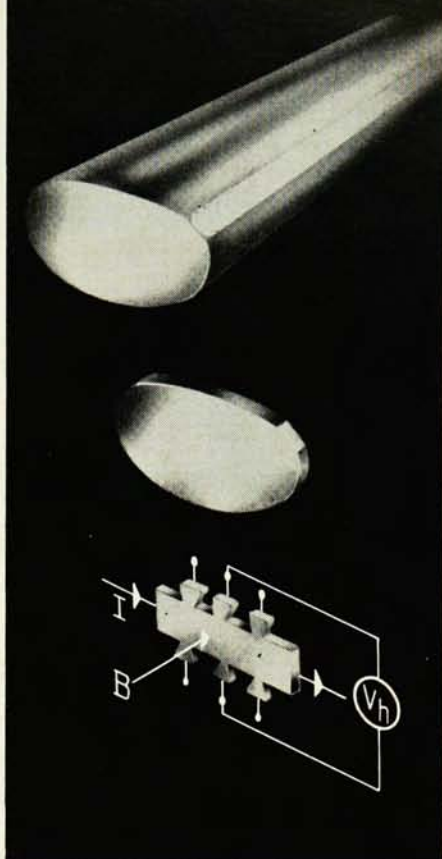
Clarence W. Kanolt, a research physicist with the Farrand Optical Company in New York City for the past twenty-two years, died on November 28 while visiting in Pittsfield, Mass.

He was born in Susquehanna, Pa., on August 14, 1880. Educated at Columbia University, he received his bachelor's degree there in 1902 and his PhD in 1905. The next year he became an instructor in chemistry at Western Reserve University, and in 1909 he joined the National Bureau of Standards as an assistant physicist. Dr. Kanolt remained with the Bureau for



Robert E. Rundle

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