

ing the earth will appear to us speeded up—in other words there will be a ‘violet shift’ due to the gravitational attraction of the earth, since the field at the satellite will be *weaker* than that at the surface of the earth where we make observations, while it will be *stronger* at the sun. Since a satellite clock is in high-speed motion in a weaker gravitational field relative to a ground clock, it will run at a rate determined by both the motional and the gravitational time shifts, thus checking both special and general relativity. . . .

“When the relativistic clock satellite experiment is done, it will be possible to conduct additional experiments on geophysics and the velocity of light without adding equipment in the satellite. We would like to see another clock-equipped ground station set up so that the satellite clock time signals could be received at both stations. The relativity measurements will automatically give the time the signals take to get to the stations, so that by methods of triangulation, the distance between the stations could be measured in terms of the known velocity of radio waves (or light). Such measurements would give the exact geometric shape of the earth and could be made over inaccessible regions such as water or mountains. Present orbital measurements of satellites give the mass distribution of the earth rather than its geometric figure. This experiment can be reversed and the velocity of light measured in terms of the distance between ground stations. This could be done in different directions in space over paths of thousands of miles, thus checking on whether space is the same in all directions—that is, whether it is isotropic. The velocity of light could be measured for different satellite speeds showing that it is independent of the motion of the source, as relativity requires.”

Presidential Appointments

On July 16th, fourteen years to the day after the first atomic bomb was exploded in the wastelands of New Mexico, John H. Williams was nominated by the President to serve as the scientist member of the Atomic Energy Commission. A peaceful man of boundless energy, Williams came to Washington as director of the AEC's Division of Research in April of last year. Before that he had been professor of physics at the University of Minnesota where he was in charge of the 68-Mev proton linear accelerator project which the University conducts under AEC contract.

A member of the Minnesota Physics Department since 1934, he served briefly with the Office of Scientific Research and Development in 1942 and became involved in the work of the Manhattan District project early in 1943. During the hectic days when construction of the original wartime laboratory buildings at Los Alamos was an around-the-clock operation his talents for doing other things than just physics were fully exploited, and in the face of that emergency he made history of a kind by becoming known as perhaps the first and only plumber's foreman holding a PhD in physics. From then until the end of the war he headed a Los Alamos experimental group charged with making cross-section and other measurements with a Van de Graaff generator which had been hauled across the plains from Wisconsin, although much of his time in



John H. Williams

the early part of 1945 was spent in helping to supervise the complex preparations for the Alamogordo test shot. In 1946 he left Los Alamos, returned to Minnesota, built a new accelerator, and got back to doing physics.

A productive physicist, Williams has been responsible for the accumulation over nearly three decades of a sizeable body of experimental data on light nuclei reactions and scattering, as well as in x-ray spectroscopy. He was one of the organizers of the Midwestern Universities Research Association (MURA), serving as its vice president for two years after it was founded. He was president of MURA in 1956–57, and has also served as a member of the Policy Advisory Board of the Argonne National Laboratory. He is a fellow of the American Physical Society.

James H. Wakelin, Jr., was sworn in on July 8 as Assistant Secretary of the Navy for Research and Development following Senate confirmation of his nomination to that post by President Eisenhower. Dr. Wakelin, who is a member of both the American Physical Society and the Society of Rheology, received his undergraduate education at Dartmouth College and his PhD in physics from Yale University in 1940. He has been a member of the staff at the Textile Research Institute, Princeton, N. J., since 1948 and served as its director from 1951 to 1954.

Publications

An interesting new experiment in publishing inexpensive paperbacks on science at a popular level is to be initiated this month with the appearance of the first five books of a series that eventually is expected to include more than 70 titles. The publishing program is in the hands of Doubleday and Company, Inc., in cooperation with Wesleyan University Press, and the group of books will be known as the “Science Study Series”.

The Series grew out of the work of the Physical Science Study Committee, which was organized in 1956 at the Massachusetts Institute of Technology with the