



WILLIAMS

His career as an experimenter began as an undergraduate at Rice in nuclear physics, and continued in solid state physics at Dartmouth. He was attracted to fundamental problems in atomic physics as a doctoral candidate at Yale, with Venon W. Hughes, with whom he performed sensitive nmr experiments that set new limits on the anisotropy of inertial mass. At Michigan, he worked on a number of experiments with hydrogen and helium beams, especially a precision measurement of the $2S_{1/2}-2P_{3/2}$ interval in hydrogen with Richard T. Robiscoe. This was followed by a series of measurements with Arthur Rich in which the circular polarization of light from white dwarfs and other galactic objects was measured. His most ambitious challenge was the search for weak interactions in hydrogen, which he pioneered with Robert R. Lewis. This work yielded the best existing tests of inversion symmetries in the hydrogen atom. At the time of his death, he was collaborating on a particle physics experiment to measure the muon g -factor anomaly.

A dry recital of his accomplishments fails to convey the vitality and enthusiasm with which he lived. Williams was an unusually vigorous person, rising early, working hard and lamenting the time spent in sleep. He conveyed a keen sense of joy in his work and stimulated those around him to share his intense activity. The range of his interests included travel, sailing, hiking, canoeing and, especially, flying. He was an accomplished linguist and an enthusiastic musician. His concern for people led him to involvement in political questions; for example, he was a member of an arms control seminar at the University of Michigan, and he signed the statement pledging not to

perform research funded by the Strategic Defense Initiative. He will long be remembered as a positive force in the lives of many people.

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Harald Zingl

Harald Zingl, a leading figure in few-body physics and an important contributor to the evolution of Austrian physics, died on 27 January 1987, at the age of 59.

Zingl was born in 1927 in the Steiermark, in Austria. The completion of his education was delayed by the war, and so he studied at the University of Graz only in the early 1950s. He soon excelled in his studies of physics and was awarded the Erzherzog Johann Prize (1959) and the Theodor Korner Prize twice (1960, 1962). The latter is given by the President of Austria to encourage promising, talented young scientists.

From 1974 he was professor at the Institute of Theoretical Physics at the University of Graz, where Paul Urban has been the driving force for many years. Zingl was responsible for building up a systematic teaching program as well as a group of excellent younger research collaborators in the area of few-body nuclear and particle physics. Zingl made also an important contribution, especially at its early stages, to the organization of the Schlading series of winter schools, which has become one of the foremost such series in the world. He was also the organizer of the 1978 Conference on the Few-Body Problem, a periodic international meeting.

Zingl's main research interest was within the few-body area. Toward the beginning of his career he worked with Urban on weak interaction problems and on relativistic electromagnetic scattering. Later he became interested also in strong interaction problems. Gathering around him a sizable group of younger physicists, many of whom have by now embarked on careers of their own, Zingl published important papers on electron-deuteron scattering and the form factor problem, on the deuteron wave function, on separable potentials in the two-nucleon interaction (one of which is named the "Graz potential") and on the interplay of the Coulomb and the strong interaction parts in various few-nucleon reactions.

This group of researchers also evolved an intensive network of inter-



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national collaborations, with Paris, Bielefeld, Karlsruhe, the Naval Research Laboratory in Washington, DC, and many other institutions.

Zingl was a board member of the European Physical Society's nuclear physics division. He will be remembered both as a noted researcher and as an important contributor to the building of new opportunities for future generations of Austrian physicists. He will also be remembered by his friends and colleagues as a kind and congenial human being.

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William W. Beeman

William W. Beeman, professor emeritus of physics and biophysics at the University of Wisconsin in Madison, died in Madison on 7 February 1987 at the age of 75.

Born in Detroit, Michigan, Beeman received a BS in mathematics from the University of Michigan in 1937 and a PhD in physics from Johns Hopkins University in 1940. After a year at the General Motors Research Laboratory he joined the faculty of the University of Wisconsin. He became a professor in 1952 and helped found the University of Wisconsin Biophysics Laboratory in 1962, serving as its chairman from 1962 to 1970. He retired in 1981.

Beeman worked at Johns Hopkins with Joyce A. Bearden. His PhD thesis concerned x-ray absorption edges of dissolved substances, and he continued to use x rays to study the structure of matter. He used x-ray absorption and emission spectra to study chemical binding in complex solids. In the