

Services Administration at Boulder, Colorado where he worked on optical propagation as it relates to atmospheric and geophysical problems. Calvin D. Salzberg of Kodak will spend this year at Stanford University.

Formerly with CBS Laboratories, Andrew L. Dalisa has joined the research group at Philips Laboratories, North American Philips Corp, Briarcliff Manor, N. Y.

Duane N. Sunderman is now assistant director for technical development at Battelle Memorial Institute, Columbus. He was formerly coordinator of basic research at Battelle-Columbus. Sun-

derman, a chemical physicist, has worked on a variety of problems including nuclear-fuel reprocessing and radiotracer techniques.



CHOPRA

Kuldip P. Chopra has been named professor of physics at Old Dominion University, Virginia. He was formerly professor of applied physics at Nova University in Florida.

Additions to the Los Alamos Scientific Laboratory staff include William S. Bennett III, John J. Malanify, John E. Foley and Chester F. Hwang.

## Harry Hess, Space Board Chairman, Dies Suddenly

Harry H. Hess, chairman of the Space Science Board, died this August in Woods Hole, Massachusetts, where he was heading a board conference. Hess, 63, was professor of geology and curator of mineralogy at Princeton. His research interests were unusually varied, and he made important contributions in several fields: Hess was among the first proponents of the ocean-floor spreading hypothesis, contributed to the planning of the Apollo 11 scientific program and was influential in the design of the Houston Lunar Receiving Laboratory.

Among the honors Hess had received were the Feltrinelli medal of the Italian Accademia dei Lincei and the Penrose Medal of the Geological Society of America. The National Aeronautics and Space Administration recently cited him for his contributions to the space program.

## Kenichi Watanabe Dies at 58; Studied Upper Atmosphere

Kenichi Watanabe, a University of Hawaii physicist, died in August at the age of 58. Watanabe, a native of Honolulu, studied at Caltech and received his PhD there in 1940. After teaching at both Cal Tech and Wabash College, he became a physicist at the US Naval Research Laboratory and in 1961 was made head of the Air Force Cambridge Research Center atmospheric-composition section. Wata-

nabe joined the Hawaii physics department as professor in 1954 and in 1961 was promoted to senior professor, the position that he held until his death.

Watanabe, a pioneer in the use of rockets to study the upper atmosphere, measured ozone concentration in that region, and his group was the first to measure in detail vacuum-ultraviolet absorption coefficients of several important upper-atmospheric gases. He established a vacuum-ultraviolet lab at Hawaii and this past spring received the Hawaii University award for excellence in research. Watanabe was a member of the National Aeronautics and Space Administration Planetary Atmospheres Panel and of the editorial advisory board of the Planetary and Space Science Journal and was a fellow of both the American Physical Society and the American Optical Society.

## Cecil Powell, Cosmic-Ray Physicist, Dies in Italy

Cecil F. Powell died on 9 August in Bellano, Italy. At the time of his death he was visiting the summer institute at Varenna.

Born in 1903, Powell had worked under Charles T. Wilson and Ernest Rutherford at Cambridge, where he received his PhD in 1927. He then went to the University of Bristol to do work with A. M. Tyndall, and for the rest of his life he remained at Bristol where he became Melville Wills Professor of Physics in 1948 and

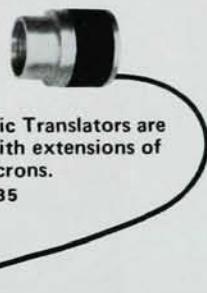
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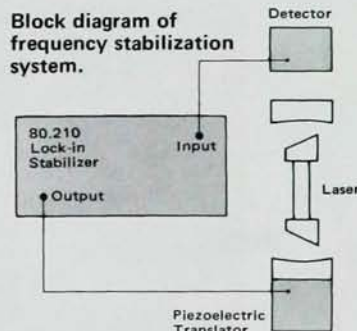


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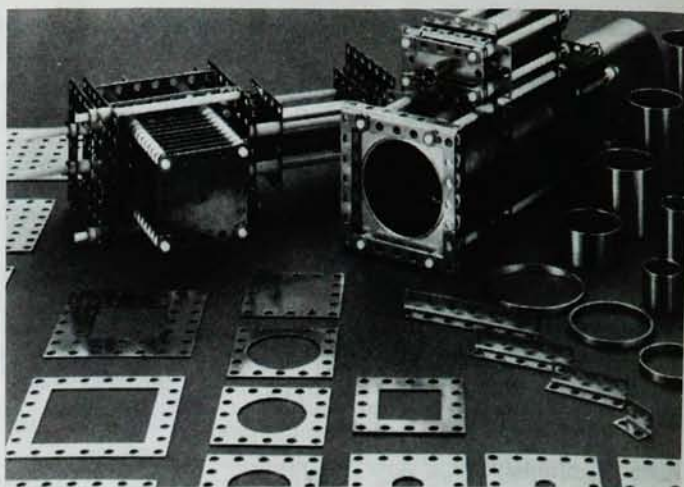
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director of the H. H. Wills Physical Laboratory in 1964. The 1950 Nobel prize in physics was awarded to him for his investigations of pions.

From 1939 to 1945 Powell and his colleagues at Bristol developed techniques to permit the use of photographic emulsions to detect individual nuclear particles. The nuclear-emulsion technique was applied by him to the detailed study of low-energy nuclear reactions. By 1947 a significantly improved version of these emulsions had been developed. These were exposed by Giuseppe Occhialini on the Pic du Midi in the Pyrenees, and the study of the interactions of cosmic rays with the nuclei of the emulsions was started. This proved to be an extremely fruitful and intensely exciting field of research; discovery of pions and their decay into muons by Powell, Occhialini and Cesare M. Lattes in 1947 solved the puzzle of the copious production and weak nuclear interaction of cosmic-ray mesons.

Bristol became a mecca for students of all nationalities. They came to learn the new techniques, so that they could introduce them in their own laboratories, and to do research under Powell. The group discovered K mesons and identified their various decay modes. High-energy interactions and the properties of primary cosmic radiation were studied. It was a truly international group of students and physicists, and a spirit of vital excitement pervaded the laboratory. Powell directed the work with insight and with kindness to all of his students and collaborators.

For a few years Bristol was where the important discoveries were made. As accelerators and bubble chambers took the place of cosmic rays and nuclear emulsions, Powell's activities turned more towards formulation of scientific policies and the social responsibilities of scientists. He received many honors and took on many responsibilities: Powell was a vice president of the British Peace Council, President of the Association of Scientific Workers, member of the Scientific Policy Committee at CERN and the recipient of an honorary doctorate from Moscow University. In 1967 he received the Lomonosov Gold Medal, the highest honor of the Soviet Academy of Sciences.

UGO CAMERINI  
University of Wisconsin □



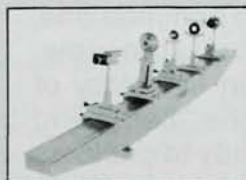
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