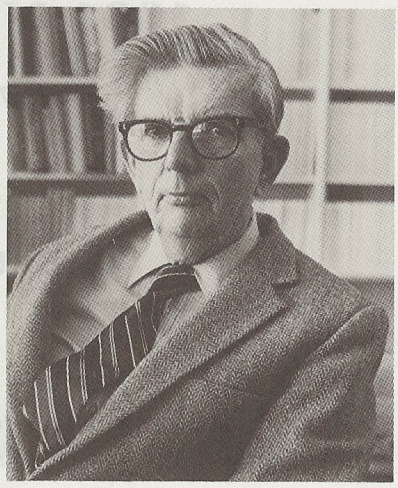
1991 Pioneer Award



Robert H. Dicke

"For the invention of the microwave radiometer."

This award recognizes important technical contributions that have had a continuing impact on the practice of microwave engineering for a period exceeding twenty years. The award consists of a certificate, a bronze plaque, and a cash sum of one thousand dollars.

The 1991 recipient is **Robert H. Dicke,** Albert Einstein Professor of Science, Professor of Physics Emeritus, Princeton University. Prof. Dicke is cited "For the invention of the microwave radiometer". The work was reported in the paper: "The Measurement of Thermal Radiation at Microwave Frequencies", *Review of Scientific Instruments,* vol. 17, pp. 268-275, July 1946. In one paper Dicke developed from fundamental principles, the theory and practice of radiometry at microwave frequencies. Furthermore, the basic technique used by him, front end switching and phase sensitive detection, is widely used in high sensitivity receivers. The work was carried out at the MIT Radiation Laboratory.

Robert H. Dicke, born in 1916, was raised in Rochester N.Y. He received the AB degree from Princeton University (1939) and the Ph.D in physics from the University of Rochester (1941). In September 1941 Dicke joined the Radiation Laboratory at MIT, where he worked on silicon detectors, antenna feed patterns, the theory of symmetric waveguide junctions and other problems. While there he made a number of inventions of which the most important are probably the "magic tee", the microwave radiometer, chirp radar and monopulse radar. After the termination of the war Dicke stayed on to help write the Radiation Laboratory Series, principally Vol. 8 which contains his theory of symmetric waveguide junctions.

In 1946 he joined the Physics Department at Princeton and was appointed the Cyrus Fogg Brackett Professor in 1957. He resigned this chair in 1975 to become the new Albert Einstein Professor of Science. He was department chairman from 1967 to 1970. He retired in 1984, but continues his research as the Albert Einstein Professor of Science Emeritus.

He has served on numerous advisory committees, including the National Science Board, the National Bureau of Standards, and NASA. He is a member of the National Academy of Sciences, and has received many high honors during his career including the National Science Medal (1971) and three honorary D.Sc. degrees.