

NASA News

P78-10152

National Aeronautics and
Space Administration

Washington, D.C. 20546
AC 202 755-8370

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IMMEDIATE

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RELEASE NO: 78-147



HEYMAN WINS THIRD IR-100 AWARD

A physicist at NASA's Langley Research Center, Hampton, Va., has been selected for a third IR-100 award by Industrial Research magazine for helping develop one of the 100 most significant new technical products of 1978.

Dr. Joseph S. Heyman was presented his award at a banquet in Chicago Sept. 21. This is the first time that a single individual has been selected three times by the magazine for research work. Heyman's previous awards were in 1974 and 1976.

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THIRD IR-100 AWARD (National Aeronautics and
Space Administration) 3 P

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The 1978 device, jointly developed at Langley and at Washington University, St. Louis, is called an acousto-electric transducer. It greatly improves the accuracy of measuring deviations in structural properties by using very high-pitched sound waves.

The advantage of the acoustoelectric transducer over conventional transducers is its insensitivity to the shape of sound waves. New information provided by the device will allow researchers to more accurately identify and evaluate material flaws and to characterize biomedical specimens and tissue.

Research on the acoustoelectric transducer was conducted by Dr. Heyman, of Langley Center's Instrument Research Division, and by Dr. James G. Miller, professor of physics, and Lawrence J. Busse, research physicist, both of Washington University's Laboratory for Ultrasonics.

Heyman's research concentrated on the measurement of materials, while Miller and Busse studied the medical applications of the new device.

Heyman's first IR-100 award, presented in 1974, was for the development of a medical monitoring device. Called a continuous wave ultrasonic microemboli monitor, it is an ultrasonic instrument that monitors impurities in a patient's blood during open-heart surgery.

This instrument, compact in size, easy to operate and relatively cheap, was also jointly developed by Heyman and researchers at Washington University.

In 1976 Heyman won his second IR-100 award for the development of an ultrasonic bolt stress monitor. It measures the strain in bolts with an ultrasonic instrument that can indicate changes in bolt strain to better than one part in 10,000. The bolt monitor is portable, easy to use, inexpensive and extremely accurate.

The 100 winning 1978 new products are being displayed for several weeks at Chicago's Museum of Science and Industry for engineers, scientists, educators and the general public.