ASTRONAUTICS

Explorer VII Measures Earth's, Sun's Radiation

THE RADIATION satellite, Explorer VII, contains six experiments to measure the earth's and the sun's radiations.

A seventh experiment will count the tiny dust-like particles in space called micrometeorites. Explorer VII is the last fired by the National Aeronautics and Space Administration of the series of space experiments planned for the International Geophysical Year.

The successful orbiting and reception of space information of Explorer VII marks the first time the United States has used the 20-megacycle radio band to transmit scientific data. This frequency has been used by the Russian Sputniks.

Explorer VII is also the first satellite to be equipped with an automatic cutoff for its broadcast signals. The solar-powered transmitter, carrying information from the six radiation experiments, will automatically go off the air one year from Oct. 13. This releases the freqency for other purposes, probably future satellites, in accordance with international agreements.

The radiation experiments include study of:

1. The earth's radiation balance. Although the amount of energy received and radiated by the earth during a period of several years is nearly constant, more energy is received from the sun near the equator than is radiated into space from there. Conversely, at the poles, more energy is radiated than received. The energy thus transferred from equator to poles will be studied by measuring the sun's direct radiation; the amount of this radiation reflected by the earth, its clouds and atmosphere; and the amount of radiation converted into heat, then reradiated back into space.

2. The sun's production of Lyman alpha and soft X-rays.

3. Primary cosmic rays consisting of the nuclei of lithium, carbon and fluorine atoms.

4. A cosmic ray counter to measure the large area of radiation surrounding the earth.

5. The performance of a solar cell exposed to space conditions without protection.

6. Four different measurements of the temperatures experienced by the satellite.

Science News Letter, October 24, 1959

PHARMACOLGY

New Drug Reported To Relieve Heart Pain

ONE OF THE most common and painful types of heart disease has been treated successfully with a promising new drug.

Dr. Myron Prinzmetal of the University of California Medical School, Los Angeles, performed studies with the drug, monamine oxidase inhibitor, in collaboration with the Cedars of Lebanon Hospital.

Forty-three patients suffering frequent and disabling pains of angina pectoris were treated. Twenty of them were completely relieved of pain so that they were able to discontinue use of nitroglycerin, the standard treatment at present. Some of the group had required as many as 30 nitroglycerin tablets daily.

Fifteen of the group improved moderately, substantially reducing the intake of nitroglycerin previously required. Only eight patients showed slight or no relief. No serious side effects of the drug were noted.

"In our experience," Dr. Prinzmetal said, "monamine oxidase inhibitor is the most effective drug in preventing anginal pain in severe chronic cases found in several years of trial with numerous other drugs."

He pointed out that while the drug relieves anginal pain, it does not appear to affect the underlying heart disease. The usual precautions as to activity of patients with anginal pectoris must be observed.

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