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News Release

GRADUATE RESEARCH CENTER OF THE SOUTHWEST
SOUTHWEST CENTER FOR ADVANCED STUDIES

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RELEASE

FRIDAY, DECEMBER 4 AND THEREAFTER

CENTER TO PROVIDE COSMIC RAY EXPERIMENTS FOR IMP-F, IMP-G
EARTH-ORBIT SATELLITES; NASA MAKES \$430,000 RESEARCH GRANT

DALLAS --

One of 10 experiments selected by the National Aeronautics and Space Administration for two Earth-Orbit IMP's will be provided by the Graduate Research Center of the Southwest.

Two flight instruments and a flight-worthy prototype will be furnished to NASA-Goddard Space Flight Center under a \$430,000 grant to the GRCSW. The experiment will yield data on cosmic ray anisotropies -- principally, the directions from ^{which} energetic particles arrive at a space detector as it travels in an eccentric orbit. Energies of the space particles will also be measured.

Prof. Kenneth G. McCracken of the Center's Atmospheric and Space Sciences faculty is principal investigator.

Full name of the IMP satellites is Interplanetary Monitoring Platform. Two of the series (IMP-D and IMP-E) will be placed in Moon orbits by "kick motors."

IMP-F and IMP-G are scheduled to carry the Center's detectors, in a 1966-67 program. These satellites, which will be re-named "Explorers" after going into successful orbits, will follow eccentric tracks, from 200 to 185,000 miles away from Earth. The experiments will gather data from outside Earth's magnetic field during about 60 percent of their flight time. The anticipated active life of each satellite is six months.

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IMP EXPERIMENTS/NASA GRANT -2-

Earth-orbiter programs will come at a time when solar flares, gigantic energetic outbursts from the Sun, are increasing during an 11-year cycle. The flights will be ahead of target dates for manned Moon trips. There will be special interest in measuring energies and paths of space particles following solar flares.

The Center's detectors will measure particle energies at 12 different levels between 1 million and 100 million electron volts (MEV). Cosmic ray flux measurements will be reported from eight different directions at each energy level.

The detectors will weigh less than 6 pounds each; they will operate on 1.5 watts of electrical power, or about one fifth as much as a single Christmas tree light bulb. Use of magnetic materials is highly restricted. NASA-Goddard will provide its own magnetic fields experiment on the same IMP's.

Electronics design and fabrication at the Center will be done by Electronics Scientist William C. Bartley and Electronics Engineers Richard Bickel and Jack Younse.

Other experiment contributors for IMP-F and IMP-G will be the University of Chicago, University of California, Bell Telephone Laboratories, Iowa State University, Space Technology Laboratories, and the University of Maryland, as well as NASA-Goddard.

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