Rice Gets $4 Million NASA Grant For Satellite Design, Construction

By JAMES DOYLE
Thresher Reporter

Two grants totaling almost $4 million have been awarded Rice's Space Scientists to carry their work into the outer atmosphere.

NASA headquarters in Washington awarded, for the first time to any American university, a $3.7 million contract to Rice University for the designing and building of two orbiting explorer satellites and one flight-worthy alternate.

Dr. Robert Haymes, Assistant Professor of Space Science at Rice, has been granted $135,530 by the Air Force Office of Scientific Research to conduct measurements of gamma rays emitted from stellar formations.

Broadens Scope

The Explorer project gives Rice scientists the authority to extend their studies of auroral activity and other near-earth phenomena through a satellite program.

The program puts the initiative for proposing and developing scientific payloads in the hands of university groups for the first time, and also gives these universities contracting authority that previously has been the responsibility of NASA.

The project, to be designated "OWL," will be headed by Dr. Brian J. O'Brien. The first scheduled launching will be from the Pacific Missile range in the summer of 1967.

Study Cosmic Rays

This satellite will measure radiation and radiation loss in the Van Allen belts, aurorae and airglow, bombardment of the upper atmosphere by energetic particles in space, and galactic and solar cosmic rays.

The second satellite will follow one month later in an interrelated orbit so that Rice scientists, for the first time, will be capable of measuring particle and light flux in both day and night conditions in the northern and southern hemispheres.

The scout launch vehicle, which will be used to lift the OWLS into orbit, will be the responsibility of the NASA Langley Research Center, Hampton, Virginia.

Crab Nebula

Dr. Haymes' project will use a balloon to carry a specially designed radio telescope that will survey the Crab Nebula, a gaseous formation of stellar debris first sighted by Chinese astronomers in 1054 A.D.

The Crab is believed to be the remnants of a star that exploded some 3500 years ago. The gamma ray telescope will be used to measure the debris left by this hydrogen bomb-like explosion. The problem is to get radiation detectors above most of the earth's atmosphere and pointed directly at the Crab.

Large As Building

Rice scientists plan to use a balloon as large as Houston's 44-story Humble Building to carry their 200 pound telescope some 25 miles above the earth. The balloon, containing five and one-fourth million cubic feet of helium, is expected to be launched from the National Center for Atmospheric Research at Palestine, Texas, some time in September.

A second flight is planned later this year in the search for more information on the ancient super-star explosion.