THE UNIVERSITY OF CHICAGO
Chicago, Illinois

FOR IMMEDIATE RELEASE

Instruments designed and developed at the University of Chicago to measure energetic charged particles coming from the galaxy, the sun, and trapped in the magnetic field of earth are included in the Pioneer V space probe payload. The instrument has the interesting property that it will detect high energy particles even in the presence of high intensity low energy particles such as are found in the outer radiation belt.

The purpose of the University of Chicago experiments is to attack three related problems:

1. To measure high energy radiation trapped in the earth's magnetic field.
2. To detect the generation of charged particle radiation by processes on the sun, such as solar flares.
3. To study the electromagnetic conditions in the nearby interplanetary space through the detection of high energy particles traversing this region of space.

These experiments are being carried out by Peter Meyer and J. A. Simpson of the University's Enrico Fermi Institute for Nuclear Studies, and by C. Y. Fan and the engineering staff of the Chicago Midway Laboratories, a division of the University's Laboratory for Applied Sciences.

- more -

The apparatus is composed of a triple coincidence counter system surrounded by 5 mm of lead. The instrument is so designed that high energy charged particles may be measured separately from the intense, but low energy particles trapped in the magnetic field of the earth. The circuit is composed of amplifiers, logic circuits and information storage circuits capable of providing information on both the high energy radiation and the low energy radiation. There are two telemetry channels from the satellite to earth.

In an earlier space probe, the detector system measured an intense flux of high energy trapped protons near the lower edge of the Van Allen Zone.

# # #