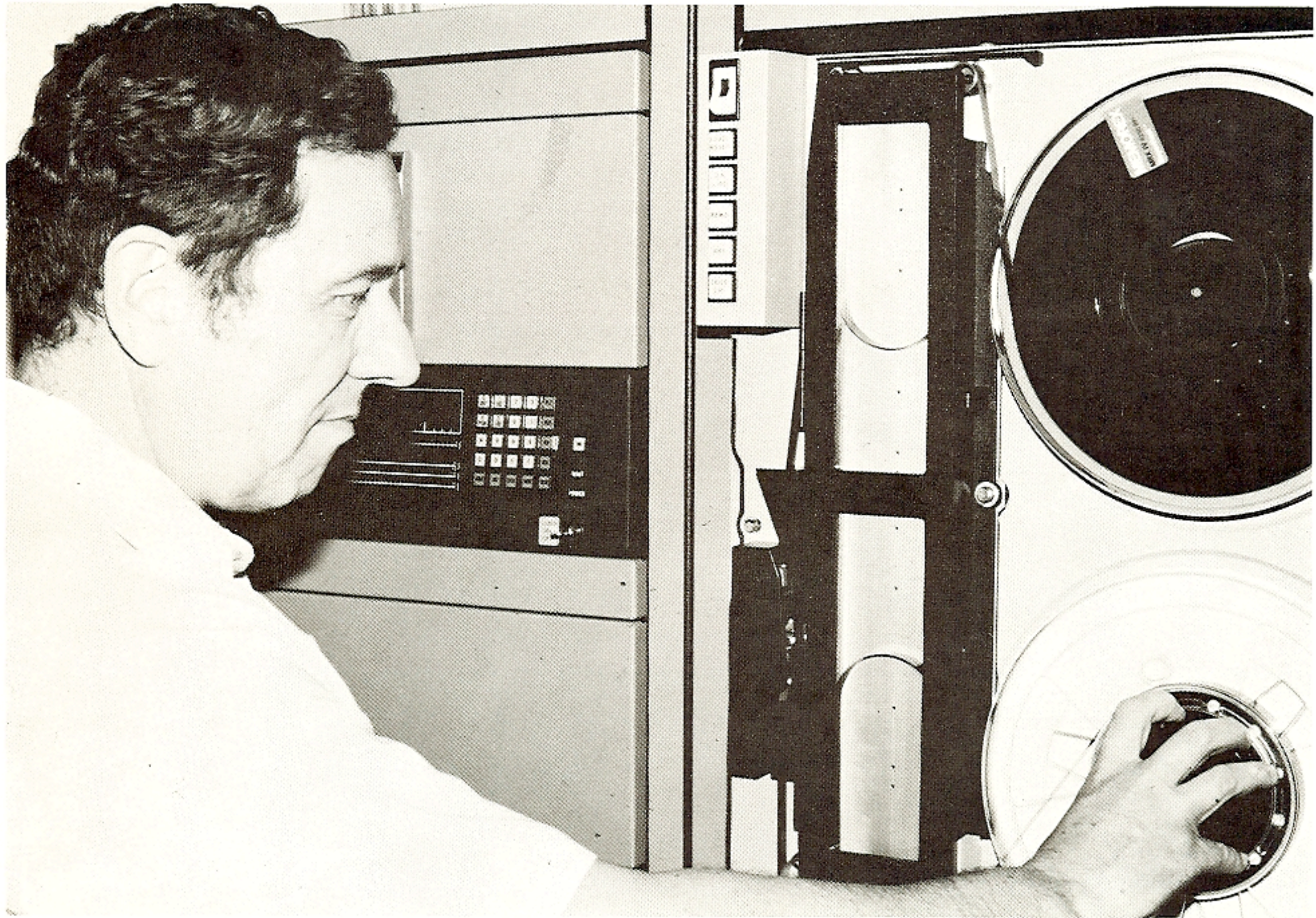


SPACE PHYSICS

Dr. Charles Sonett leads a research group whose activities can be broadly divided into three areas. Work on the interior physics of the terrestrial planets draws its motivation from the planetary physics experiments of the Apollo program, particularly electromagnetic sounding using Moon-based magnetometers. This work conceptually includes the problem of the various types of solar wind interaction with other planets, the problem of possible early heating of planets by a very active primordial Sun, and the origin and properties of meteorites. Besides electromagnetic induction in terrestrial-type planets, the discovery of remanent magnetization of lunar rocks has opened a large, new field con-

cerned with the origin of this magnetism and its relation to the overall history of the solar system.

In addition to the planetary physics research, work is being carried out on the physical structure of the solar wind, especially the nature of the wave field and its origin, probably in the solar atmosphere. In connection with both the planetary physics and solar wind research a new Interdata 8/32 computer has been installed, and a communication system will link it nationally to other computers. The communication system will make this facility a part of the new NASA nationwide spacecraft data retrieval system.



Dr. Donald Hunten's interests lie mainly in atmospheres of planets, including the Earth. He participates as an interdisciplinary scientist on the Pioneer Venus probe and orbiter missions, launched in 1978, and is particularly concerned with mass-spectrometer measurements of the upper atmosphere, and particle size measurements in the clouds. The orbiter will probably continue to operate through most of 1980, and analysis will continue for some years after

that. Hunten is similarly involved with the Galileo mission to Jupiter, to be launched in 1982.

Atmospheres are also studied through computer simulation of their chemical and ionization processes. The same techniques apply to pollution problems on Earth, particularly perturbations of the ozone layer. Interpretation of spectroscopic measurements form an important part of this activity.