role of observations ranging from subsurface to balloon altitudes. It follows a 1968 volume from the National Academy of Sciences Space Science Board, *Physics of the Earth in Space: A Program of Research 1968–1975,* which focused on rockets, satellites and space probes.

The new report notes that surface techniques now permit measurements that cannot be made by rockets or satellites. Recommendations include a new northern US installation for ionospheric research using incoherent scatter radar, an Antarctic very-low-frequency transmitter for magnetospheric measurements and remote-sensing monitors for cosmic-ray and geomagnetic observations in various parts of the world.

The study group was headed by Herbert Friedman.

THE PHYSICS COMMUNITY

Cuts Affect Research, Graduate Enrollment

A recent survey of the 205 physics- and astronomy-department chairmen of PhD-granting institutions shows that cuts in federal funding are seriously affecting research physicists and that the departments are expecting fewer graduate students and postdoctorates.

The survey was conducted for the Committee on Physics and Society (COMPAS) by the American Institute of Physics and analyzed by the Education and Manpower Division, headed by Arnold Strassenburg.

The 100 chairmen who answered all the questions reported that 882 physicists on their faculty have experienced belt-tightening as a result of cutbacks in research support; an additional 580 have suffered impairment of research output, and 102 others had to terminate their projects. The chairmen predicted that the numbers in the latter two categories would be increased by 13% and 40%, respectively, by next year. Other answers revealed that many physicists are thinking of changing to research areas that are more readily supportable than their present specialities, but the number who have already made this change is small.

On questions of graduate students and postdoctorates, 138 chairmen replied. Based on their projections, the average number of graduate students per department will decrease from 58.3 in 1969–70 to 54.4 in 1970–71. (Assuming the sample is representative, the total decline of graduate students would be 800.) Three difficulties are cited: 2.1 fewer students will be admitted because of loss of research support; 1.5 because of decline in the number of jobs available after graduation and 0.3 to make more funds available to pay postdoctorates (keeping them in a holding pattern hoping that the job market may improve).

The total number of faculty positions for next year is projected to rise slightly, because of more permanent tenured positions. Yet the predicted number of new appointments for 1970–71 is slightly smaller than for 1969–70 largely because of fewer visiting and temporary positions and a smaller number of resignations. Postdoctoral appointments for next year are expected to decrease by 10% from 1969–70; funded postdoctoral fellowships made during 1970 are projected to be 18% smaller than the number in 1969–70. The implication of these two percentages is that many departments are making funds available from other sources to retain their postdoctorates until they find employment elsewhere, according to Strassenburg.

A more complete analysis is available from the AIP.

Department Chairmen, Industry Discuss Employment Problem

One hundred physics and astronomy department chairmen (or their representatives) and directors of industrial laboratories gathered at the March meeting of the American Physical Society to discuss employment and federal funding.

Organized by Peter Weiss and Bernard Serin, physics chairman and associate chairman, respectively, at Rutgers University, the meeting's purpose was "to informally exchange information and ideas on such questions as the number of students to be trained, the nature of their education and alternatives to meet the funding crisis."

After presentations by Ross Macdonald of Texas Instruments, Lewis Slack from the American Institute of Physics and Richard L. Smith of the American Physicists Association, discussion centered on ways to combat overspecialization in PhD education, perhaps by a renewed emphasis on classical physics, and how to avoid an employment problem. Some suggested a possible cut in graduate enrollment, and others, more postdoctorates to create jobs. A limited supply of transcripts is available from Serin at Rutgers.

ASA Names Johnson of Penn State As President-Elect

The Acoustical Society of America chose John C. Johnson of the Ordnance Research Laboratory at Pennsylvania State University as its president-elect during the society's April meeting. He succeeds Vincent Salmon of the Stanford Research Institute, who is now president.

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Johnson will serve with the new vice-president-elect, Kenneth N. Stevens of the Massachusetts Institute of Technology. Stevens replaces the new vice-president, John Bouyoucos of the electronics division, General Dynamics.

In addition to the new officers, the ASA named two new councilmen to succeed Ira Dyer of Bolt Beranek and Newman and Alan Powell of the Naval Ship and Development Center: They are K. Uno Ingard of MIT and Henning E. von Gierke of Wright-Patterson Air Force Base. □