

requirements for the Venus probes could be somewhat less stringent than for previous planetary ventures. Because Venus exploration has demonstrated the inhospitability of that planet to terrestrial life, the panel has recommended a relaxation in sterilization requirements. Venera 7, the Soviet probe which was recently reported to have made the first successful soft landing on Venus, has confirmed the harshness of the Venusian environment. The surface temperature at the surface is, according to Tass, about 700 K and the atmospheric pressure at the surface is 90 atmospheres.

The report of the Venus panel is available from the Space Science Board, at 2101 Constitution Avenue, Washington, D.C. 20418.

NAL program for visiting high-energy theorists

A new theoretical program is being set up at the National Accelerator Laboratory beginning in the academic year 1971-72, when the machine is expected to produce its first beam. S. B. Treiman (Princeton) is organizing a group of high-energy theorists to spend varying periods of time, up to one year, at NAL. (This is in addition to the existing theory program.) Some are bringing their own financial support and others will receive assistance from NAL.

Treiman said that the emphasis will be on phenomenology and that for the first couple of years it is planned to continue having visiting theorists. He said NAL will welcome high-energy theorists who want to take their academic leave at NAL "rather than going to the fleshpots of Paris," but they will be expected to provide their own funds. NAL will act as host, providing office space.

Among those who expect to be at

NAL for some period of time during the first year are: Henry Abarbanel (Princeton), Stephen Adler (Institute for Advanced Study), James Bjorken (SLAC), Curtis Callan (Institute for Advanced Study), Roger Dashen (Institute for Advanced Study), Sidney Drell (SLAC), Frederick Gilman (SLAC), Benjamin W. Lee (State University of New York at Stony Brook), Yoichiro Nambu (University of Chicago), Jeremiah Sullivan (University of Illinois), Treiman and C. N. Yang (Stony Brook). —GBL

in brief

A protocol providing the basis for joint Soviet-American experiments at the Institute of High-Energy Physics in Serpukhov and the National Accelerator Laboratory, was signed by representatives of the Soviet and US atomic-energy commissions on 30 Nov.

Senior Fulbright-Hays awards for research and lecturing abroad during 1972-73 are available to US citizens with a doctorate or college teaching experience. Applications, which should be sent this Spring, are available from Senior Fulbright-Hays Program, 2101 Constitution Avenue, Washington, D.C. 20418.

The physics department of the College of William and Mary will use a three-year \$610 000 NSF Departmental Science Development grant for new equipment, visiting faculty, and other teaching and research needs. The department now has 25 faculty members and 56 graduate students.

Rutgers University has started an interdisciplinary PhD program in Geophysical Fluid Dynamics. Emphasis is on basic dynamic mechanisms

Wisconsin

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ished but he was fortunate to have already established a new research direction for himself at the Wisconsin electron storage ring 15 miles away in Stoughton. He does not plan to rebuild his old equipment.

Some of the low-temperature facilities, which were also heavily damaged, cannot be restored until the building construction is completed and funding is assured. —GBL

underlying motions in the atmosphere and oceans.

The Institute for Environmental Sciences has created a solar-radiation committee headed by Charles H. Duncan of the Goddard Space Flight Center. The committee will deal with such fields as radiometers, calibrations, simulation facilities, radiant-energy sources, optical, thermal and electronic design, instrumentation, and safety and maintenance. It is now planning to recommend a practice for solar simulation for thermal vacuum testing of space-flight materials and spacecraft.

The Institute of Physics and the Physical Society, 47 Belgrave Square, London, S.W. 1, is forming an Atomic Collisions in Solids Group, for those interested in the interaction of energetic particles with solids.

A new graduate program in petrology at the Stony Brook campus of the State University of New York emphasizes solid earth and moon studies. Stony Brook's Earth and Space Sciences Department also expects to add a new geophysics group.

the physics community

Project SEED: mathematics in the ghetto

An approach to teaching advanced mathematical concepts to culturally disadvantaged elementary school students was demonstrated during a recent New York City meeting of the National Council of Teachers of Mathematics. William Johntz, director of Project SEED (Special Elementary Education for the Disadvantaged) presented in his first lesson concepts including truth and false sets, infinite sets, substitution rules and operations with zero and negative numbers, to a fifth-grade class

selected at random from a ghetto elementary school in the Bronx. Johntz employs in the SEED Project a "discovery" teaching technique similar to the ancient Socratic method. Because of their training in abstract mathematics, many physicists may be well equipped to participate in this program as instructors.

Johntz told us that SEED offers an alternative to university teaching and corporate research, "placing mathematicians and scientists directly in

contact with the true intellectuals of our society—namely, children. We have in our project dozens of mathematicians who have given up university and industry employment in order to involve themselves full time in Project SEED. Others who continue to work in both worlds report that their research has improved."

Project SEED was initiated in the Berkeley, California school system in 1963 by Johntz, who had previously studied psychology and mathematics