also be built. The Council approved a budget of 21.7 million Swiss francs for 1966, the major part of which will go for construction on the site. Main purchases of equipment are not scheduled to begin until 1967.

There are no plans to build similar storage rings in this country. In its policy statement for high-energy physics last year, AEC said there was no need to build proton storage rings in the US because CERN seemed very likely to go ahead with its design.

Pioneer VI

The solar wind at the end of December was much slower than at times of high solar activity. The figure, determined from experiments aboard the interplanetary probe Pioneer VI, is about 670 000 mph. Values as high as two million mph have been recorded in periods of high solar activity. Aside from solar-wind studies, the artificial planet carries a number of experiments to record aspects of interplanetary conditions.

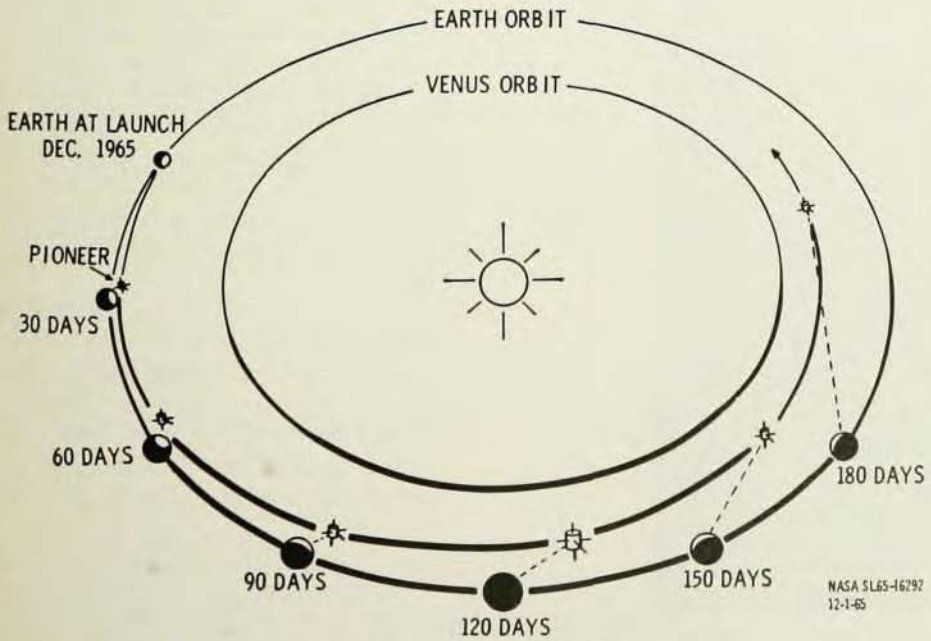
Pioneer VI was sent off on 16 December to orbit the sun between Venus and earth. It will reach perihelion at 0.8143 astronomical units and aphelion at 0.9836. The period will be 311.3 days.

The probe was designed to be one of the magnetically cleanest spacecraft ever built. Its field at 30 in from the center is one half gamma (earth's surface field is 50 000 to 70 000 gamma). It will thus interfere very little with the magnetometers aboard, which seek information about the strength and configuration of the solar magnetic field. Especially interesting are distortions of the (putative) dipole field caused by solar emission of charged particles, which carry field lines away with them.

The various solar-wind experiments can record electrons, protons, and charged ions over a wide range of energies (two to 10 000 eV are covered by one or another device). A radiopropagation experiment with a high-frequency (423.3 Mc/sec) reference signal and a low-frequency (49.8 Mc/sec) test signal will be used to determine variations in total electron content in the space between Pioneer and earth.

Cosmic-ray investigations include both solar and galactic studies. A cosmic-ray anisotropy detector will seek to determine how the number and energy of galactic cosmic rays may vary with direction of arrival. A cosmic-ray telescope will measure both solar and galactic arrivals and attempt to determine the effect of solar activity on the galactic component.

The probe is a cylinder 35 in long and 37 in in diameter and weighs 140 pounds. It was fired from Cape Kennedy. A series of such craft is planned to orbit the sun in a band 40 million miles wide, which will straddle the earth's orbit.



PIONEER VI ORBIT

Chicago astrophysics lab

The University of Chicago has dedicated a new laboratory for interdisciplinary research in astrophysics. The building contains about 32 000 sq ft of laboratory and office space and cost $1.75 million of NASA's money. Two floors are above ground and two below. The subbasement is a concrete-shielded counting laboratory for measuring radioactivity of meteorites and planetary samples. A vertical shaft 3 ft in diameter extends 50 ft below the subbasement level to bedrock for low-level counting.

Chicago faculty members who will have office or laboratory space in the new laboratory include John A. Simpson Peter Meyer, S. Chandrasekhar, Edward Anders, Eugene N. Parker, Anthony Turkevich, and Peter D. Noerdlinger. The laboratory is associated with the university's Enrico Fermi Institute for Nuclear Studies.

New telescopes at Yerkes

A pair of small telescopes for special work will be installed at the Yerkes Observatory of the University of Chicago during the coming spring. A new building, 64 by 16 ft with two 16-ft domes, is being prepared to house them. Construction will cost about $45 000, and the telescopes will come to $75 000 more.

One of the instruments is a wide-field telescope with an objective prism to study formation of young stars, their effect on their predecessors, and the material of which they are made. The other instrument is a photoelectric nebular spectrophotometer designed to measure and analyze light from objects with low surface brightness but large images, such as comet tails and diffuse nebulae. Chemical composition of the interstellar medium and the nature of particles in comet tails will be studied. The building will also contain a photographic darkroom and an optical and electronics laboratory.