

ASTRONAUTICS

Probe to Pass Venus

► THE SOVIET space station now on its way to Venus will pass the planet at a distance of about 60,000 miles, a Russian scientist has reported.

Although short by astronomical standards, this distance is not close enough to pick up significant information about Venus unless the probe has very sensitive instruments, United States scientists believe.

Russian Academician A. V. Topchiev, the USSR Embassy in Washington, D. C., reported, said that the Soviet automatic planetary station is moving toward Venus along a path close to the plotted course. It will pass Venus at a distance of about 100,000 kilometers, or 62,500 miles.

The Venus probe, launched on Feb. 12, is scheduled to be near Venus sometime in May. Its radio sent signals for a while, then stopped, then began again the middle of March.

Two United States scientists, Drs. Robert Jastrow and Joseph W. Siry of the National Aeronautics and Space Administration, said the probe could possibly measure the magnetic field of Venus at some 60,000 miles, but only if a very sensitive magnetometer

is on board. The Russians have said very little about its instruments.

Dr. Jastrow said studies of the Venus atmosphere by spectroscopic analysis in the ultraviolet might be made from such a space vehicle.

The probe could measure particles and radiation in the atmosphere of Venus, Dr. Siry said. However, when 60,000 miles away from Venus, it is difficult to tell if instruments are measuring the functions of Venus or merely the interplanetary medium of space close to the sun.

Unless the probe carries a television camera, little information to help scientists solve some of the mysteries of Venus is expected.

The planet's rotation period is believed by some to be 225 days, the same time Venus takes to travel around the sun.

It is known to be not less than 24 days. A clue to the length of a day on Venus could come from TV pictures sent back to earth from the probe. Such pictures could also tell something about the atmosphere and surface of Venus.

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makes them glow and to find out exactly where auroras are located in overhead positions.

Drs. Gartlein and Sprague said auroras are most likely to be seen at 53 degrees latitude and most frequently in the middle of the night. Northeast United States seems to be the only location from which auroras can be seen during the summer.

To be a pioneer in a field about which little is known, interested persons can become auroral observers, the scientists said. It costs nothing, and observers are sent all the material necessary for observing free. This material consists of an instruction book, colored filters for viewing the auroras, report forms and postpaid envelopes.

Requests should be sent to: Aurora Data Center, Cornell University, Ithaca, N.Y.

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ASTRONAUTICS

Lunar Drilling Rig Will Explore the Moon

► A LUNAR DRILLING RIG has been developed to explore the sub-surface of the moon. The drill will bore a hole in the surface of the moon and telemeter its findings back to earth.

Engineers led by Frederick H. Green, of the Garrett Corporation, Los Angeles, Calif., have partially tested the drill, devised to determine the composition of the moon's surface.

This information would aid engineers in designing space vehicles for carrying astronauts to the moon and land them successfully.

The drilling rig is about 10 feet tall, weighs 300 pounds on earth but only 50 on the moon because the moon's gravity is only one-sixth of the earth's.

The drill will develop its own power from solar energy.

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ASTRONOMY

Blue Northern Light

► RARE BLUE COLOR in the spectacular aurora, or "northern lights," is being investigated by 350 amateur night sky observers.

The blue light, which may look greenish to the eye, begins later in the auroral display in the sky than do the red and green colors.

Drs. C. W. Gartlein and G. Sprague of the IGY Auroral Data Center, Cornell University, Ithaca, N.Y., told SCIENCE SERVICE that they have asked auroral observers to look at the aurora through a blue filter, which lets all blue light come through.

Reports from such observations will help explain how the nitrogen molecular ions that produce the blue light behave during an aurora. This information will fill a gap in a study of the aurora's energy supply.

Reports from visual observers are very important because no computer or instrument is yet able to do the work of humans in observing auroras for form, location, color and motion.

A very fast television pick-up tube can take an exposure of an aurora in about half a minute in one direction. To obtain a TV picture of the whole sky would require about half a mile of graph paper.

The scientists said the visual auroral observers are mainly high school students interested in space sciences and amateur astronomers. However, 50 of the 350 observers are from the U.S. Weather Bureau. An effort to get all interested high school students in Minnesota to participate is now being made.

They said the program could use another 350 observers. However, auroras are seen only in the northern United States and observers should live there. Drs. Gartlein and Sprague said they especially need observers in the northwestern states.

Scientists are studying auroras to see what



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