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V. UPPER ATMOSPHERE AND SPACE RESEARCH

News

"Venus-3" Impacts Planet

The automatic station "Venus-3", after three and a half months of flight in cosmic space, reached the planet Venus and delivered on its surface a device with the coat of arms of the Union of Soviet Socialist Republics on 1 March 1966 at 0956 hours Moscow time.

The precise encounter of the automatic station with the planet was ensured by the trajectory correction in the flight of the station which was made successfully on 26 December 1965. Regular radio communication with the station was maintained during the entire flight and scientific information was received. No communication session with the station was held during its approach to the planet Venus.

The other automatic interplanetary station, "Venus-2", launched on 12 November 1965, is continuing its flight along a heliocentric orbit; it passed by Venus on 27 February 1966 at 0552 hours Moscow time at a distance of 24,000 kilometers from its surface.

The flight of the station at a preset distance from the planet without a correction /trajectory/ being made was ensured only because of the accuracy with which it was put into an interplanetary trajectory.

The experiments made with the aid of the automatic stations "Venus-2" and "Venus-3" made it possible to solve a number of basically new problems of interplanetary flights and to obtain new scientific data. The materials of the flights of these stations are being processed and studied.
(Complete transmission: "Device with USSR Coat of Arms on Planet Venus", TASS report; Moscow, Pravda, 2 March 1966, p. 1)

Professor Ivanchenko Changes His Story on "Venus-3"

Professor V. Ivanchenko, referred to by the Soviet newspaper Izvestiya as "...a specialist in the field of cosmonautics", is the author of two articles on the Soviet Venus probes which have recently appeared in that publication. In the first of these articles, which appeared in the 28 November 1965 issue of Izvestiya, the Professor says in regard to "Venus-2" and "Venus-3":

"It is natural that these two launchings are not simple repetitions of each other; each of the flying stations had different scientific missions. And, it goes without saying, that with successive launchings it is possible to obtain more complete information from two stations than one.

"Although the flight paths of the two stations are close to one another, they can pass on different sides of the planet itself. Each of us, probably, has fired on a range and seen how bullets flying to a single target will fall to either side of the bull's eye. In contrast to such shots, the location of the trajectories near Venus can be controlled and the automatic stations can be purposely directed along the required paths. Thus, it will be possible to study different sides of the planet almost simultaneously.

"There is still another consideration which compels us to give preference to the strategy of group flights for obtaining the most complete information.

"Now these stations are moving in outer space far from Venus. And for the present, observe one and the same phenomena in space inasmuch as the distance between them -- about a million kilometers -- is not very great in comparison with the distance between Earth and Venus. If in the next few days, let us say, there will be solar flares, both stations will record them almost identically. But the stations will reach Venus on different days and obtain data on its various 'conditions'. We know little about the surface of this planet and in particular about its atmosphere. It is possible that the first station will fly by 'in poor weather' when some process in the Venusian atmosphere will impede the gathering of scientific information, and the other will be near it during more favorable conditions for scientific observations. Two successive flights will increase the probability of obtaining the most reliable data on the planet.

"It is possible to present an analogy. Imagine that some intelligent inhabitants of another world would wish to know whether there is life on Earth. And everything turned out so unsuccessfully that their ship flew past the Earth when the land, which would be visible from it, was covered by clouds. They would decide that the Earth is an uninhabited planet, devoid of continents, and th t its atmosphere was filled with water vapor. But a ship flying past several days later would see continents and signs of life on them. Thus, from the viewpoint of obtaining scientific information, the launching of two stations at different times is very expedient."

And further on in the article, Professor Ivanchenko says: "Thus, after several months, "Venus-2" and "Venus-3" will be near the planet. We hope that they will give us new information and we will remember at the time, that a single, perhaps even a group flight, cannot reveal all of the riddles of the 'morning star'."

Professor Ivanchenko's latest article, published in Izvestiya of 4 March 1966, makes quite another claim for the mission of "Venus-3", however. Forgetting, or ignoring, his previous statements on the Venus probes, Professor Ivanchenko flatly states: "The mission of 'Venus-3' was a direct hit on the planet."
(Excerpts: "Flight to Venus" and "Meeting with the Morning Star", by Professor V. Ivanchenko; Moscow, Izvestiya, 28 November 1965 and 4 March 1966)

Oxygen on Venus

The amount of oxygen in the upper layers of the Venusian atmosphere consists of not more than one tenth percent that found in the Earth's atmosphere. This was told to a TASS correspondent by V. Prokof'yev, Doctor of Physicomathematical Sciences, who based his statement on new spectra of the planet which were obtained recently. In comparison, the report continues, American astrophysics consider that it is not more than one thirtieth percent.

Prokof'yev considers it also very important to check other assumptions on the composition of the Venusian atmosphere, for example, the presence in it of complex organic compounds, a hypothesis advanced by N. A. Kozyrev, Pulkovo astrophysicist.
(Complete translation: "Oxygen on Venus", TASS report; Moscow, Izvestiya, 3 March 1966, p. 1)

"Zond-3" Still Operating

The interplanetary automatic station "Zond-3", launched in the Soviet Union on 18 July 1965, is continuing its flight along a heliocentric orbit, gradually moving away from the Sun.

Station "Zond-3" was at a distance of 153 million 520 thousand kilometers from the Earth on 2 March 1966 at 0020 hours Moscow time.

All on-board equipment is functioning normally.

During the past seven and a half months of flight, 135 radio contacts were made with the station during which photographs of the other side of the Moon, a large volume of scientific information and