



演 講

Road to Venus mission in Japan

- from curiosity to the realization-

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摘 要 / Abstract :

In 2015, One Japanese spacecraft was successfully injected into Venus Orbit after failure of orbit injection in 2010, and it became the first orbiter of other planet, which was named “Akatsuki” (暁、Dawn) after its successful injection.

The history of Venus exploration are Venera 1-16 in 1961-1983 by USSR. Mariner 2, 5, and 10 by USA in 1962 -1973, Pioneer Venus by USA in 1987. Vega 1, 2 in 1984 by USSR, Magellan in 1989 by USA, and lastly Venus express in 2001 by ESA. Currently ESA (European Space Agency) and NASA are discussing 2026 Venus mission (Venera-D)

We describe here a road to successful Venus mission. We start from the failure of orbit injection in 2010, and successful injection to Venus orbiter in 2015. Then we go back to the history before successful orbit injection. We had a dream to send a Venus probe in 1980's. The questions we had are: Why Venus has super rotation, Does active volcano exist, Is there lightning? Is there Aurora? why neutral density in the cryosphere suddenly disappears ? . To make our curiosity satisfy, we prepared for the mission, starting from analysis of data obtained with Pioneer Venus, read a thick summary book on Pioneer Venus, and asked private company to start feasibility study in late 1980's.

We describe here phenomena which are still not understood. These include instruments to find the clues to solve the problems for Venus mission, and finally orbit selection of the spacecraft which is constrained under the limited capability of launcher. Most important task was to find scientists who are keen to send a probe to Venus. Here is a story which we want to convey to young generation.

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