

Jovian Small Orbiter for Magnetospheric and Auroral Studies associated with Solar Sail Project

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Solar-Sail Project to have been examined by ISAS/JAXA as an engineering mission has a possibility of a small probe into the Jovian orbit. This paper summarizes the basic design of Jovian magnetospheric and auroral studies by this small chance.

The large-scale Jovian mission has been a hope since the 1970s when the examinations of planetary exploration were started in Japan. In the one of plans, the largest planet in the solar system would be solved by two main objectives: (1) Structure of a gas planet: the internal and atmospheric structures of a gas planet which could not become a star (following the objectives of Planet-C and BepiColombo). (2) Jovian-type magnetosphere: the process of a pulsar-like magnetosphere with the strongest magnetospheric activities in the solar system (following the objectives of BepiColombo and SCOPE).

The small polar-orbit orbiter in Solar-Sail Project aims to establish the feasibility of such future outer planet missions by ISAS/JAXA. It aims the former target in its limited resources.