

## Significance of Plasma Wave Observation in the Magnetosphere of Mercury

# Yoshiharu Omura[1], Hirotsugu Kojima[1], Hiroshi Matsumoto[1], Mercury Mission Plasma Wave Team Hiroshi Matsumoto  
[1] RASC, Kyoto Univ.

<http://www.kurasc.kyoto-u.ac.jp/~omura>

We study characteristics of possible plasma waves in the plasma environment around the planet Mercury.

In the Mariner 10 encounters with Mercury in 1974, it was found that the planet has an internal magnetic field forming a magnetosphere through interaction with the solar wind. It was also found that time-dependent processes similar to substorms are occurring there.

Assuming a range of parameters in the Mercury's magnetosphere, we study properties of various plasma waves and associated acceleration and diffusion of electrons and ions possibly flowing out of the Mercury's exosphere.