



Electromagnetic Waves observed near the Ionopause of Venus

Hanying Wei (1), Christopher T. Russell (1), Jillian T. M. Daniels (1), Tielong Zhang (2), Robert J. Strangeway (1), and Janet G. Luhmann (3)

(1) Institute of Geophysics and Planetary Physics, Earth and Space Science, UCLA, Los Angeles, United States (hwei@igpp.ucla.edu), (2) Space Research Institute, Austrian Academy of Sciences, OEAW, 8042 Graz, Austria, (3) Space Sciences Laboratory, University of California, Berkeley, CA 94720, USA

The ionosphere of Venus stands off the solar wind and induced currents flowing on the ionopause to shield the upstream magnetic field from penetrating the ionosphere. The Venus Express magnetometer occasionally observes plasma waves near the ionopause and clearly associated with it. During the ionopause crossings on September 11th 2006, electromagnetic waves were observed with peak frequency of about 0.6 Hz. They propagated obliquely to the magnetic field with a propagation angle over 55 degrees on both the inbound and outbound passes. They were circular polarized and right-handed. These waves are important because they are possibly due to current sheet dissipation. We investigate the high resolution magnetic field data up to 128 Hz to select events of such waves and examine their properties and their possible effects at the ionopause.