Geophysical Research Abstracts, Vol. 7, 08713, 2005
SRef-ID: 1607-7962/gra/EGU05-A-08713

Cassini CAPS/IBS results from first Titan encounters and comparison to Titan quasi-neutral hybrid model

J.H. Vilppola (1), K. Mursula (1), P. Tanskanen (1), E. Kallio (2), I. Sillanpää (2), J. Steinberg (3), B. Barraglough (3), F. Crary (4), A. Coates (5)

(1) University of Oulu, Department of Physical Sciences P.O. Box 3000, FIN-90014 University of Oulu, Finland (2) Finnish Meteorological Institute, Finland, (3) Los Alamos National Laboratory, USA, (4) South-west Research Institute, USA, (5) Mullard Space Science Laboratory, University College London, United Kingdom, (e-mail: jari.vilppola@oulu.fi/fax: +358 8 5531287)

Since its arrival in the Saturnian system on the 1st of July 2004, Cassini had a number of Titan flybys. During these flybys the CAPS/IBS instrument can be used to investigate Titan's ionosphere and plasma wake. IBS is a hemispherical electrostatic analyser that provides measurements of energy/charge from 0 to 50 keV/q at a high (1.5%) resolution. Thus it is a suitable instrument also for studies of Titan's ionosphere. During Titan flybys IBS can be pointed to the RAM direction to measure the spectra of ionospheric plasma. Several ion compounds have been detected within Titan's ionosphere. The measured ion composition can be compared with simulations of Titan's ionosphere. Here we will use IBS data and a quasi-neutral hybrid model for Titan's atmosphere to investigate Titan's rich plasma environment in Saturnian system.