Geophysical Research Abstracts,
Vol. 11, EGU2009-2555, 2009
EGU General Assembly 2009

Study of the drift energies in the kronian magnetosphere: a comparison between model results and experimental data

s. grimald (1), C. S. Arridge (1), A. Rochel (2), and I. Dandouras (3)

(1) MSSL, UCL, Dorking, United Kingdom (sg2@mssl.ucl.ac.uk), (2) Blackett Laboratory, Imperial College, London, United Kingdom (a.rochel@imperial.ac.uk), (3) CESR, Toulouse, France(Iannis.Dandouras@cesr.fr)

In the inner magnetosphere, the low energy particles (ions and electrons) corotate. Due to the gradient and the curvature of the field lines, the magnetic field influences the motion of the particles. Gradient and curvature are responsible of the existence of drift velocities perpendicular to the magnetic field lines. Above a critical energy, the total drift velocity will be higher than the corotation velocity. The electrons and the ions then rotate in opposite directions. We have developed a model which calculates the drift and corotation velocities, and apply it to determine the minimum energy. In this paper, we use data from the Cassini CAPS and MIMI instruments to compare the observed particle energy spectra with model result in order to explain the behaviour of the particles.