EPSC Abstracts,
Vol. 2, EPSC2007-A-00080, 2007
European Planetary Science Congress 2007

Hemisphere Coupling in Satellite Plasma Interaction

J. Saur (1), F.M. Neubauer (1), and N. Schilling (1)

(1) Institute for Geophysics and Meteorology, University of Cologne, Germany

The recently discovered gas plume around Enceladus' south pole makes its interaction with Saturn's magnetosphere unique. In our talk we present a new analytic model of this interaction, which shows how both hemispheres of Enceladus are electrodynamically coupled. Our model calculates the electric field, electric currents and the plasma velocity in the vicinity of Enceladus. It also provides predictions for the magnetic field in and around Enceladus' Alfven wings