Geophysical Research Abstracts
Vol. 14, EGU2012-8582, 2012
EGU General Assembly 2012

Modelling the Forces in Saturn's Warped Magnetodisc

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Observations from the *Cassini* spacecraft have established that Saturn's outer magnetospheric current sheet does not generally lie in the planet's rotational equatorial plane. Previous analyses have revealed that the current sheet adopted a 'bowl-like' shape, swept northwards of the equator, during the *Cassini* prime mission (southern summer solstice). In order to quantify the relationship between solar wind dynamic pressure, planetary dipole tilt, and the shape of the near-noon current sheet, we examine a simple model of magnetopause currents within systems where the planetary dipole / rotation axis is oriented at $\sim$65 degrees (solstice) and 90 degrees (equinox) to the upstream flow direction of the solar wind. We use this simple model to compute the 'shielding field' for the UCL Magnetodisc Model. We show model predictions of the north-south asymmetry in the current sheet for varying dipole orientations and magnetopause sizes. We comment on the potential application of using observed magnetic signatures of current sheet displacement (relative to the equator) as an indep endent probe of solar wind pressure.