Geophysical Research Abstracts
Vol. 16, EGU2014-4505, 2014
EGU General Assembly 2014
© Author(s) 2014. CC Attribution 3.0 License.

Magnetic tension in the Titan magnetic wake

Peter Israelevich and Alexander Ershkovich

Tel Aviv University, Department of Geophysics and Planetary Sciences, Tel Aviv, Israel (peter@luna.tau.ac.il, +972 3 640-9282)

Magnetic field structure was observed in numerous Cassini flybys in the region of Titan interaction with the corotating flow of Kronian magnetosheric plasma. We consider the magnetic field tension near Titan and show that the draping is observed only upstream the Titan, but not in the Titan magnetic wake, where the magnetic field direction is not consistent with the induced magnetosphere produced by magnetic field lines draping and contradicts the classical picture of the ideal induced magnetosphere. We arrive at the conclusion that the mechanisms alternative to the induced magnetosphere formation due to the field line draping should be considered for the formation of Titan magnetic wake.