



Martian induced magnetosphere variations with solar activity cycle

Andrey Fedorov (1), Modolo Ronan (2), Riku Jarninen (3), Christian Mazelle (1), and Stas Barabash (4)

(1) CESR/CNRS, Toulouse, France (andrei.fedorov@cesr.fr), (2) LASP, Paris, France, (3) FMI, Helsinki, Finland, (4) IRF, Kiruna, Sweden

During the last 6 years of ESA Mars Express mission we have accumulated plasma data taken inside and around the Martian induced magnetosphere corresponding to the increasing branch of solar activity. This data allows to make an enhanced study of the magnetosphere variations as a response of the solar activity level. Since Mars Express has no onboard magnetometer, we used the hybrid models of the Martian plasma environment to get a proper frame to make an adequate statistics of the magnetospheric response. In this paper we present a spatial distribution of the planetary plasma in the planetary wake as well as the ionsospheric escape as a function of the solar activity.