



Bifurcation of the jovian magnetotail current

P. L. Israelevich and A. I. Ershkovich

Department of Geophysics and Planetary Sciences, Tel Aviv University (peteri@post.tau.ac.il)

Multiple crossings of the magnetotail current sheet by a single spacecraft give possibility to distinguish between two types of electric current density distribution: single-peaked (Harris type current layer) and double-peaked (bifurcated current sheet). Magnetic field measurements in Jovian magnetic tail by Voyager-2 and Galileo reveal 14 cases of the magnetotail current sheet bifurcation. Electric current density possesses minimum at the point of B_x -component reversal and two maxima at the distance where the magnetic field strength reaches 50% of its value in the tail lobe. In contrast to the Earth's magnetosphere, double peak current sheet is not a common feature of Jovian magnetosphere. It seems plausible, that the occurrence of bifurcated current sheet is determined by the mechanism of its formation.