



Slow-mode shock detection in the Jovian magnetosheath

Z. Bebesei (1), K. Szego (1), A. Balogh (2), G. Erdos (1), D.T. Young (3)

(1) KFKI Research Institute for Particle and Nuclear Physics, (2) Imperial College, London, UK, (3) Southwest Research Institute, San Antonio, TX, USA

We discuss some interesting plasma observations in the Jovian magnetosheath by the onboard plasma instruments of the Cassini spacecraft during the 2000-2001 Jupiter flyby. We propose that the observations are consistent with a slow mode shock transition. In the terrestrial magnetosheath, a number of observations have been made that are consistent with slow-mode waves or shocks. In addition, a number of observations have established that, at least occasionally, slow-mode structures form at the plasma sheet-lobe boundary in the terrestrial magnetotail, related to X lines associated with reconnection. There has been only one previously reported observation of slow mode shock-like transition in the Jovian plasma environment, which was made in the day-side magnetosheath. The observation we report here was made well downstream from the front of the magnetosphere in Jupiter's magnetosheath. For our analysis we have used the data from the Cassini Plasma Spectrometer (CAPS) and the Magnetometer (MAG) that have also been used in studying the bow shock crossings observed by Cassini that ranged downstream to -600 RJ from the planet.