Plasma sheet evolution following dual lobe reconnection

M.F. Marcucci, A. Milillo, E. Amata

INAF - IFSI, Rome, Italy (ermanno.amata@ifsi-roma.inaf.it),

When lobe reconnection occurs simultaneously tailward of the cusp at both hemispheres (dual lobe reconnection), magnetosheath plasma can be captured in the magnetosphere and results in a cold dense plasma sheet (CDPS). Here we study the evolution of the plasma sheet during a three days period when the IMF points steadily northward during two time intervals. For both intervals dual lobe reconnection is evidenced by means of ionospheric high latitude observations and Cluster measurements at the magnetopause. We apply the Orsini et al. (2004) method to LANL data in order to reconstruct the global equatorial proton distribution and evaluate the amount of particles injected into the near Earth region. We independently estimate the amount of particles captured in the magnetosphere through dual lobe reconnection by using SuperDARN and Image data. We find a good agreement between such two estimates..