



Multi-Point perspectives of Cold Dense Plasma Sheet formation

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This work builds on a recent case study by Taylor et al. [2007] in which data from a wide variety of spacecraft observations, including Double Star (TC-1 and TC-2), Polar, LANL GEO and IMAGE, were used to investigate mechanisms involved in the formation of the near tail plasma sheet. During conditions of northward interplanetary magnetic field (IMF), the near tail plasma sheet is known to become denser and cooler. The mechanisms, and their efficiency, which allow for the formation of this cold dense plasma sheet (CDPS) are of great interest, in particular whether plasma is transferred to the magnetosphere via poleward-of-cusp, lobe reconnection or via mechanisms at the flank magnetopause. In this current study, we present observations over the period of the Double Star mission (2004 onwards). The events focus on multiple spacecraft and ground based observations of the condition of the near tail magnetotail under predominantly northward IMF driving conditions. This work is being carried out as

part of an International Space Science Institute (ISSI) working group on 'Comparative Cluster- Double Star measurements of the Magnetotail'.