



Automated event search and classification tools: a new perspective for statistical analysis of cross-tail current sheet.

Jacquey, C., E. Budnik, V. Génot and the CDPP team
CDPP/CESR, [jacquey@cesr.fr]

We present preliminary statistical results on the plasma sheet thickness and the neutral sheet location as a function of substorm onset timing and solar wind conditions. We used a prototype tool of automated event search and classification developed at CDPP (Centre de Données de Physique des Plasmas). This tool has been applied on a large set of data including the AL and CL indices and the key-parameters obtained from the GEOTAIL, INTERBALL, CLUSTER, WIND and ACE missions. The AL and CL indices has been automatically analysed for identifying and classifying the clear substorm onsets through 12 years of data (1993-2005). The location of the spacecraft inside or outside the plasma sheet has been inferred from various estimators based on magnetic field and particle data, also via an automated manner. The implications of these preliminary results for the substorm models will be presented and discussed.