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Dynamics of the near-Earth tail: Polar, GOES and Cluster coordinated observations

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Precession of the line of apsides of the Polar spacecraft brought apogee down to the equatorial region in 2001, 2002 and 2003 where, in conjunction with other magnetospheric spacecraft, the dynamics of the current sheet region could be observed. In the region near Polar's apogee at 9 R_E, dynamic reconnection events further down the tail lead to inward moving disturbances that compares and depolarize the near tail region. The disturbances in the magnetic field are complex and have been interpreted as a current disruption previously. Certainly the plasma is strongly heated in this region but the disturbances may also be a result of the coupling of the in-rushing plasma to the ionosphere in the region where braking takes place.