



Comparative studies on dayside magnetospheric boundaries

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Since 2001 the Cluster orbit has preferentially sampled the high and mid altitude cusp regions during the spring seasons, and crossed both the high and low latitude, dayside magnetopause at other times. The Doublestar TC-1 spacecraft often simultaneously sampled either the subsolar region of the magnetopause, or southerly latitudes, at similar local times to cluster. In addition, in the spring of 2007, the Themis spacecraft were crossing the low latitude, dusk flank of the magnetopause in a closely separated 'string of pearls' configuration as Cluster was crossing the dawnside magnetopause. We present coordinated CLUSTER-Double Star conjunctions for a number of dayside passes to investigate reconnection associated signatures observed at different locations. Themis provides the further opportunity for simultaneous dawn-dusk comparisons to be made. We focus on both the occurrence and motion of FTEs, arising from

opened flux ropes during intermittent reconnection, and the structure and dynamics of comparative boundary layer signatures during cusp and magnetopause transitions. We also review investigations of the ground signatures of reconnection (FTEs and boundary layers) and other features of magnetospheric response. The spacecraft are conjugate simultaneously with both the ESR radar on Svalbard, and the Antarctic station at Zhongshan, when the ground stations lie under the cusp position, Cluster is passing out from the northern cusp and TC-1 is near the magnetopause.