

Changes in the rapid flux transport rate in magnetotail

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A major part of the flux transport in the magnetotail is associated with transient and localized plasma flows, called bursty bulk flows or flow bursts. Occurrence of such rapid flux transport signatures has been reported to be reduced significantly Earthward of 15 Re, which has been interpreted as being due to flow braking. Recent event studies using different multi-point spacecraft constellations, however, showed that the flows can be deflected and even bounced back in the near-Earth region, suggesting that the flow braking process involves complicated evolution, which still needs to be understood. In this study we surveyed the local changes in the rapid flux transport rate obtained by Cluster multi-point observations from the midtail as well as the near-Earth region in order to discuss the evolution of the flux transport process between these two regions and how the flow braking process take places.