

Multiple Flux Rope Events at the Magnetopause Observations by TC1 on Mar.18, 2004

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From 23:10 to 23:50 UT on 18 March 2004, the TC-1 satellite of Chinese-ESA joint Double Star Mission detected seven flux ropes and one FTE event at the outbound crossing of the southern dawnside magnetopause. Its GSM position was (7.5, -5.5, -5.4) R_E . In the mean time the Cluster spacecraft were staying in the magnetosheath at (18.0, -3.1, -6.2) R_E (GSM) which worked as a good monitor of the interplanetary magnetic field and plasma states. Seven flux ropes and one FTE event occurred under the condition of southward IMF B_z and noticeably negative IMF B_y . The anterior six flux ropes appeared quasi-periodically with a repeated period being approximately 2 minutes. Notable guide field existed inside all ropes. This event is quite similar to the multiple flux rope event observed by Cluster on 26 January 2001 at the northern duskside high-latitude magnetopause. A detailed comparison of these two events is made in the paper. Preliminary studies imply that both of these multiple flux ropes observed by Double Star/TC-1 and Cluster seem to be produced by component reconnection at the dayside low latitude magnetopause.