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# A Multiple Flux Rope Event at the Dayside Magnetopause Observed by TC1 on 18 March 2004

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Flux ropes produced by reconnection at the magnetopause provide channels for the solar wind plasma to access to the magnetosphere and for the magnetospheric particles to escape to the interplanetary space. Measurements of flux ropes also provide some clues to evaluate the validity of component or anti-parallel reconnection models in the magnetopause.

From 23:10 to 23:50 UT on 18 Mar. 2004, the TC-1 satellite of Chinese-ESA joint Double Star Mission detected 7 flux ropes and 1 FTE event at the outbound crossing of the southern dawnside magnetopause. Its GSM position was (7.5, -5.5, -5.4) Re (Re is the radius of the Earth). In the mean time the Cluster spacecraft were staying in the magnetosheath at (18.0, -3.1, -6.2) Re (GSM) which worked as a good monitor of the interplanetary magnetic field and plasma states. Seven flux ropes occurred under the condition of southward IMF BZ and noticeably negative IMF BY and 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 Nov. 2001 at the northern duskside high-latitude magnetopause (Pu et. al., 2005). A detailed comparation of these two events is made in the paper. Preliminary studies imply that both multiple flux ropes events observed by TC-1/Cluster seem to be produced by component reconnection at the dayside low latitude magnetopause.