



Reconnection separatrix regions at the magnetopause: Cluster observations

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Detailed observations within the separatrix region of magnetic reconnection showing strong parallel currents, potential jumps and density cavities were recently reported by Khotyaintsev et al (PRL, 97:20500-1, 2006). These observations were done at a distance of several earth radii from the X-line and the region had a narrow transverse scale on the order of several ion inertial lengths. We analyse multiple magnetopause crossings by Cluster spacecraft where strong currents, perpendicular electric fields and density cavities are present, and study how big fraction of them are associated with the separatrix regions.