

Magnetosheath flux transfer events –minor ion populations as observed by MMS/HPCA

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The NASA Magnetospheric Multiscale (MMS) mission has completed two sweeps of the dayside magnetopause, successfully sampling with high temporal and spatial resolution the microphysics controlling the asymmetric magnetic reconnection of collisionless plasmas. During these sweeps, several flux transfer events (FTEs) associated with localized magnetopause reconnection were observed by the MMS instrumentation at high temporal resolution. This work examines in detail the characteristics of minor ions associated with some of the longer-sampled FTEs in the upstream magnetosheath region by the MMS Hot Plasma Composition Analyzer (HPCA). The influence of associated variables such as season, local time, and solar wind conditions on the minor ion populations within FTEs are also investigated as part of this effort.

Keywords: Magnetic reconnection, Flux transfer events, Magnetosheath