

A comparative study of reconnection X-line predictions on dayside magnetopause of Earth

Magnetic reconnection is a fundamental plasma process of key importance to several fields. Reconnection at Earth's magnetopause drives magnetospheric convection and provides mass and energy input into the magnetosphere/ionosphere system. Despite this importance, the factors governing the location of dayside magnetopause reconnection are not well understood. Though a few models can predict X-line locations reasonably well the underlying physics is still unresolved. In this study we present results from an intensive analysis of several reconnection regions observed by MMS to determine what quantities are most strongly associated with the occurrence of dayside magnetopause reconnection. We also attempt to answer under what upstream conditions are global X-line models least reliable.



Thursday, April 14th

4:00-5:00 p.m.

725 Commonwealth Ave | Room 502

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