Space Physics Seminar

Thursday, November 10, 2016

C·S·P

Agyrotropy in the Electron Diffusion Region of Asymmetric Magnetic Reconnection

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The Magnetospheric Multiscale (MMS) mission was launched on March 13, 2015 and consists of four spacecraft in a tetrahedral configuration. Its mission is to unravel the mystery of particle acceleration in collisionless plasmas during magnetic reconnection. It has set a world record for use of GPS at the highest altitude of any space mission -- a feat that has allowed it to maintain a mean separation 7km, or 2-3 electron skin depths at the magnetopause. This formation has allowed MMS to spatially resolve electron-scale structures. Furthermore, the unprecedented time-resolution of the fields and particles suites has made it possible to study many of the rapidly changing processes of reconnection. Once such process is plasma mixing and acceleration in the electron diffusion region (EDR), which leads to agyrotropic electron distribution functions. In this seminar, I will present an overview of MMS, some of its recent discoveries, and the insight the Electron Drift Instrument (EDI) is providing in our study of the EDR.

3:00pm in CAS 500. *Refreshments served at 2:45pm in CAS 500.*

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Next Week

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