Contribution ID: 27 Type: not specified

Estimation of energy conversion rate during current sheet crossings

Wednesday 26 April 2023 15:30 (15 minutes)

Turbulence is a complex multiscale phenomenon that controls the transfer of energy, mass, and momentum in space plasmas. Dissipation is an important process of elimination of turbulent energy cascade rate at kinetic scales. In our work, we have considered multiple current sheet crossings to investigate scale features of turbulence dissipation in the Earth's magnetotail. Analysed measurements from the FPI and FIELDS instruments of the MMS (Magnetospheric Multiscale) Mission were used. We have applied single- and multi-spacecraft techniques to uncover dissipative scale features, and how dissipation converts eddies'energy into the plasma population.

This work was supported by grant No. 97742 of the Volkswagen Foundation (VW-Stiftung), the Royal Society International Exchanges Scheme 2021 (211177) and BF/30-2021.

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Session Classification: Atmospheric studies and space geophysics