



Properties of magnetic flux ropes observed near magnetic reconnection sites in the magnetotail

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Magnetic flux ropes are 3D structures that can be produced during the magnetic reconnection process. They consist of long ropes of twisted magnetic field lines that move away from the magnetic reconnection site. Properties of magnetic flux ropes observed near 22 magnetic reconnection sites are investigated.

The signatures of flux ropes in magnetic field data can vary according to the satellite path through the rope. The different magnetic signatures are studied using multipoint data from the Cluster satellites. In addition, the properties of electrons observed in the flux ropes are compared to the properties of electrons observed in the magnetic reconnection outflows and electrons observed in the magnetotail plasma sheet during time intervals when there is no ongoing reconnection close to the spacecraft.