

E137-033

Room: 201B

Time: May 15 12:00-12:15

Causal relationship between the storm main/recovery phases and the equatorial DP2/CEJ

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The main phase of a geomagnetic storm is caused by the southward IMF, while the recovery phase is initiated by the northward IMF. The dayside equatorial magnetometer data show that the DP2 current extends to the dayside geomagnetic equator during the storm main phase, while it changes into the counter-electrojet (CEJ) during the recovery phase. Since the electric field associated with the ionospheric currents propagates upward along the magnetic field lines into the inner magnetosphere, there must be a causal relationship between the equatorial DP2/CEJ and the storm main/recovery phases.