

Geomagnetic Activity Dependence of Occurrence Probability and Spatial Distribution of Upstream Events

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Abstract: We investigated upstream events observed by the ion composition system (ICS) sensor of the energetic particles and ion composition (EPIC) instrument on board the Geotail spacecraft. We examined how occurrence probability and spatial distribution of upstream events depend on the geomagnetic activity. The results showed that the upstream events were observed more frequently in the dawn side during intense geomagnetic activity in particular. We also analyzed carbon-nitrogen-oxygen ions during the upstream events. From the above results we discuss origin of the upstream energetic ions. © 2005 Elsevier B.V. All rights reserved.

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