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Effects of Interplanetary Coronal Mass Ejections on Cosmic ray intensity and on geomagnetic activity.

Abstract content

Coronal Mass Ejections (CMEs) are described as the mass ejection of matter from the coronal region of the sun... These CME events generally occur in large numbers during the period of high solar activity carry large amount of plasma and magnetic field into interplanetary medium .The signature of CME associated interplanetary disturbances are called as Interplanetary coronal mass ejections(ICMEs).In this work,69 events of ICMEs have been utilized to derive their effects on cosmic ray intensity variation and on geomagnetic field for the period of 1996 to 2002.Chree analysis of superposed epoch methods have been adopted to derive the average influence of ICMEs on cosmic ray intensity variation. Daily mean values of Kiel neutron monitor data have been taken for analysis. It has been investigated that the ICMEs produce short-term transient decreases in cosmic ray intensity. A significant positive correlation between Ap-index and ICME speed has been observed. Results of our analysis suggest that ICMEs can produce geomagnetic disturbance with an increase in geomagnetic Ap-index.

If this papers is presented for a collaboration, please specify the collaboration

Summary

Reference

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