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MAGNETIC CLOUDS AND THEIR INFLUENCES ON COSMIC RAY INTENSITY VARIATIONS DURING SOLAR CYCLE 23

Abstract content

Magnetic cloud is a large interplanetary structure produced due to transient injection in the ambient solar wind. In this work two events of magnetic clouds [(i) October 18–20, 1995 and (ii) July, 1–2, 1996] have been selected and their relationship with cosmic rays, geomagnetic and interplanetary parameters have been examined. From this analysis, it is observed that B_z components of IMF always changes their direction from northward to southward during the 30 hours duration. It is also inferred from the analysis that all the magnetic clouds are not related all the time with the decreases of cosmic ray intensity. Large decreases in cosmic ray intensity are always associated with SSC associated magnetic clouds, perhaps caused by the turbulent sheet behind an interplanetary shock. The analysis of these two magnetic cloud events depict geomagnetic field disturbances as well as transient decreases in cosmic ray intensity during the passage of magnetic clouds Besides of these two events, we have studied the effects of all the magnetic clouds of solar cycle 23 and observed their significant effects on cosmic ray intensity variation.

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

Summary

Reference

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