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Magnitude of geomagnetic effects largely depends upon the configuration and strength of potentially geo-effective solar/interplanetary features. In the present study the identification of 200 geomagnetic storms associated with disturbance storm time (Dst) decrease of less than -50 nT have been made, which are observed during 1996-2009. The study is made statistically between the Dst strength (used as an indicator of the geomagnetic activity) and the value obtained by solar wind plasma parameters and IMF B as well as its components By and Bz. We have used the hourly values of Dst index and the wind measurements taken by various satellites. We observed that IMF B is highly geo-effective during the main phase of magnetic storms, as well as at the time IP Shock. The correlation between Dst and wind velocity is higher, as compared with IMF southwards components Bz and ion density. It has been verified that geomagnetic storm intensity is correlated well with the total magnetic field strength of IMF better than with its southward component at time of IP shock and instant of Dst minimum.
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