



Magnetospheric response to extreme interplanetary magnetic field transients

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A statistical analysis of the solar wind parameters observed during the ACE mission yields ten unique extreme B-field events throughout the mission (1998-2018). In this work we analyze magnetospheric response to these IP transients and the differences in their geoeffectiveness. Five ground geomagnetic observatories at mid-latitude, widely spread in longitude and with good data coverage are considered in the analysis of the magnetic disturbances of these extreme events: San Pablo Toledo, Surlary, Irkutsk, Memambetsu and Fresno observatories, whose IAGA codes are SPT, SUA, IRT, MMB and FRN, respectively. The global and local response components are distinguished, which nowadays has become a turning point to advance towards a better geomagnetic storm forecasting.