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## **Heliographic distribution of X-ray solar flares and association of geomagnetic disturbances with flares, solar radio emissions**

### **Abstract content**

Major X-ray flare events have been selected to study the latitudinal and longitudinal distribution of flares during solar cycle 23. The occurrence of geomagnetic storms (Dst magnitude  $\leq -100$  nT) associated with X-ray flares, coronal mass ejections (CMEs) and solar radio emissions (SREs) has been analyzed for the period of 1996 to 2005. Though, X-ray flares (Type M, X & Total X-flares) are equally distributed in the entire solar regions, however, majority of X-ray flares originated from northern / western hemisphere of the sun has been more effective as compared to southern / eastern hemisphere in producing major geomagnetic storms (Dst  $\leq -100$  nT). Out of 78 geomagnetic storms, 88% are found to be associated with halo (central position angle  $\approx 360^\circ$ ) and partial halo (central position angles  $\geq 120^\circ$ ) CMEs and about 70% with X-flares (Type M & X). The observed geomagnetic storms have also been found to be associated with type II (71%) and type IV (54%) solar radio bursts.

**If this paper is presented for a collaboration, please specify the collaboration**

### **Summary**

### **Reference**

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