

Inferential Analysis for Prospective Predictors of Strength of Geomagnetic Storms

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Abstract

Solar and Interplanetary (IP) parameters V_{cme} , V_{sw} , B , B_z and their products $V_{sw}.B$ and $V_{sw}.B_z$ are observed and correlated with Dst index to predict the strength of Geomagnetic storm. Correlative studies have very well demonstrated the usefulness of geomagnetic indices as a tool for understanding the coupling between magnetosphere and IP medium and suggest that $V_{sw}.B_z$ and B_z may be considered as prospective predictors in determining the strength of GMSs.

Keywords: Interplanetary magnetic field; Coronal mass ejections; Geomagnetic storms; Magnetic reconnection.