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Poster
During severe space weather conditions, there are several phenomena that directly or indirectly affect us, one of them is the Geomagnetic storm. Geomagnetic storm affects communication, navigation, power grid and satellite electronic system. The temporal evolution of the storm is investigated using Dst or SYM-H index. The storm profile explicitly shows three phases i.e. initial, main, and recovery phases. Most of the extreme storms have distinguishable fast and slow recovery phases. Literature suggests that the Co-rotating Interaction Region (CIR) generated storms are weaker but have quite a longer recovery phase than Interplanetary Coronal Mass Ejection (ICME) generated stronger storm recovery phase. We demonstrated a specific storm event, caused by ICME that exhibits quite longer recovery phase than usual. we observed the presence of strong Alfvenic fluctuations during the recovery. Thus we indicated that Alfvenic fluctuations could be a possible reason behind this extended recovery phase. Further, we have investigated the fast and slow recovery of extreme storms that occurred in the last three decades. Each individual storm demonstrates two distinct features of recovery phase i.e. initial fast recovery and later on slow recovery. We used exponential, hyperbolic, and linear decay functions to fit the fast and slow recovery of the storms. We observed that exponential and hyperbolic functions are well explained only for fast recovery while slow recovery is well explained by a linear function.
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