## Signatures of Sudden Commencements (SC) at equatorial and low latitudes and its dependence on the interplanetary magnetic field orientation

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Storm sudden commencement (SC) or sudden impulse (SI) is one of the important aspects of solar terrestrial relationships involving solar wind, Inetrplanetary Magnetic Field (IMF), magnetosphere, ionosphere and Equatorial electrojet (EEJ). The SCs observed globally everywhere at ground, the amplitude of each SSC and waveform will different and depends on the latitude and also the local time. The understanding of the SCs in general involves the complex current systems that develop in the magnetosphereionosphere domain as a result of sudden magnetospheric compression. In recent years, the statistical studies showed the local time (LT) pattern of occurrence of preliminary impulse at middle and low latitudes and associated mechanisms of field aligned currents and ionospheric currents. The objective of this work focuses is on the SCs characteristics which occurred during solar cycle 23 and their dependence on IMF parameters and solar wind dynamic pressure will be investigated using digital geomagnetic data from Indian sector and also satellite data. Also, this work shows the effect of DP-2 type currents on the day time and Field Aligned Currents (FACs) on night time SCs. This study will also aim to understand the aspects of preliminary impulse and main impulse characteristics at low latitudes from Indian sector and the associated ionospheric current systems which will be the tool to investigate the coupling between magnetosphere and Ionosphere.