DAY-TO-DAY VARIABILITY IN THE Sq CURRENT DURING THE DESCENDING PHASE OF THE SOLAR CYCLE 23

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Solar quiet day variation fields at locations near the dip equator are known to depend largely on the magnitude and direction of the narrow band of equatorial electrojet currents flowing over the equator. Importance of the association between the equatorial electrojet current pattern and the noticeable changes in the latitudinal development of the focus of the solar quiet day (Sq) current system is attempted. Availability of chain of observatories covering the equator to mid latitude locations in the Indian longitude zone has enabled us to depict the significant day to day variability in the geomagnetic field influenced by the modification of the diurnal tidal modes. Present study addresses the causating mechanisms effecting the distortion of the Sq current system, as reflected in the variation of Horizontal component ‘H’ and Declination component ‘D’ at the chain of low latitude locations in India, in the context of varying equatorial electrojet current pattern. Contamination of the quiet time field variations from distant magnetospheric currents is also discussed.

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