

# **VARIABILITIES OF MESOSPHERIC TIDES AND EQUATORIAL ELECTROJET STRENGTH DURING SUDDEN STRATOSPHERIC WARMING EVENTS**

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Day-to day variabilities of tidal amplitudes in mesospheric winds acquired by MF radar at Tirunelveli (8.7oN,77.8oE) and equatorial electrojet (EEJ) strength over Indian sector were investigated during winters of 1998-1999, 2002 and 2005-2006, when major sudden stratospheric warming (SSW) events occurred at high-latitude northern and southern hemisphere respectively. In 1998-99 and 2005-06, negative depression in the afternoon EEJ (1400-1600 IST) strength occurred and it lasted for several days. Interestingly, major SSW events occurred on these days. During the southern hemisphere SSW event, the afternoon EEJ strength did not reverse its direction, but its magnitude reduced, when compared to noon (1000-1300 IST) EEJ strength. The mesospheric semi-diurnal tidal amplitudes in zonal winds were either larger or comparable to diurnal tidal amplitudes on these days. Our observations suggest that the semi-diurnal tidal amplitudes enhanced during the major SSW events could contribute to the negative depression in the afternoon EEJ strength.

Variabilities, mesospheric tides, equatorial electrojet strength, sudden stratospheric warming events

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