

# NEW FINDINGS RELATING TIDAL VARIABILITY AND SOLAR ACTIVITY IN LOW LATITUDE MLT REGION

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## **Abstract:**

Mesospheric winds have been measured by meteor radar at Cachoeira Paulista (22.7° S; 45° W) since March 1999. The tidal components were analyzed over more than 16 years of available data exhibiting the annual and semi-annual variation. Amplitude of meridional (zonal) diurnal tide is on averaged 30% (14%) stronger at solar minimum than at solar maximum. The anti-phase correlation between F10.7 cm solar flux and amplitudes of the semiannual oscillation of diurnal and semidiurnal tides is presented. Additionally, the sporadic E (Es) layers occurrence has an anti-correlation with solar activity due to the tidal wind variation. Finally, a discussion about the physical mechanism was performed in terms of the particle precipitation during High-Speed Stream (HSS) events according to the solar cycle.

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