

Title : Mesospheric and Low Thermospheric Dynamics over 7.4 S and 22.7 S

Session: S3: Wave propagation between low/middle atmosphere and ionosphere

Preferred type of presentation: Poster



**Abstract:**

Neutral winds estimated from meteor radar data have been used to investigate the dynamics of the MLT region over São João do Cariri (7.4°S, 36.5°W) and Cachoeira Paulista (22.7°S, 45.0°W). For both places, the spectral analysis of the hourly-average winds shows distinct power spectrum with peaks in the tidal periods as well as in the low-frequency oscillations. Mean zonal winds over São João do Cariri show a structure characterized by a semi-annual oscillation, with a flow westward most of the time. The mean zonal wind at Cachoeira Paulista is eastward in most time and presents a semi-annual variation in the 80-90 km altitude range and an annual variation in altitudes above. The amplitudes of the mean meridional winds were weaker than zonal and present an annual variation for both localions. The meridional diurnal tide amplitudes showed semi-annual variation with maximum during February-April and August-September. The spectral energy associated with low-frequency oscillations ranging from 2 to 20 days can be seen in the zonal wind component along the time. The meridional wind component exhibit intense spectral energy associated with quasi-two-day wave during January-February and during other times of the year, but with less intensity.

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