Title : Diurnal tide and 2-day wave coupling in the meteor winds at Cachoeira Paulista and São João do Cariri, Brazil, observed during June-July 2008

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

Preferred type of presentation: Poster

Abstract:
During the time interval from June to July 2008 the neutral winds obtained in the MLT region by meteor radar systems at São João do Cariri (7.4°S, 36.5°W) and Cachoeira Paulista (22.7°S, 45.0°W) presented typical variations consistent with nonlinear coupling between atmospheric wave modes. The spectral analysis of the hourly winds for both sites shows distinct power spectrum with peaks associated with diurnal and semidiurnal tides, quasi-two-day waves and 16-hour oscillations, mainly in the meridional wind component. The quasi simultaneous presence of these waves suggested that the 16-hour waves could have been generated from nonlinear interactions between the diurnal tide and 2-day waves. Additionally, these relationships have been investigated using bispectral analysis and the results reinforce our interpretation.

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