

Long-term variations of wind velocity observed with MLT radars

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Active cumulus convection in the tropics generates various waves, such as Kelvin waves, tides, gravity waves, etc. The wave energy and momentum are transported upward by these vertically propagating waves. Wave-mean flow interactions are crucially important for the understanding of dynamical processes in the equatorial atmosphere, including the formation of peculiar long-term variations such as quasi-biennial oscillation (QBO) and semi-annual oscillation (SAO) in both the stratosphere and the MLT (mesosphere and lower thermosphere) region (70-120 km).

Using wind data obtained with meteor and MF radars in Indonesia and India in 1992-2006 we studied long-term variability of the MLT winds, including annual and semi-annual variations of the general circulation, atmospheric tides and so on.