## Aerosol Optical Depth and Its Variations at Visakhapatnam Region in 2005–2008

B.Mahendranath and G.Bharathi Department of Meteorology & Oceanography, Andhra University, Visakhapatnamt-530 003, India mahendranth@gmail.com

Aerosol properties and their spatial and temporal variations over Visakhapatnam were analysed based on ground-based radiometer data for the period Feb-2005 to Dec-2008. The average aerosol optical depth at 1020 nm at the measurement site is 0.42. Background, average, extreme, seasonal and daily AOD values have been received for the period 2005–2008. It should be noted that measurement site is characterized by AOD seasonal process with summer maximum and winter minimum. In daily AOD process there are peculiarities of AOD seasonal dynamics, but in general there is a tendency of AOD increasing in the afternoon for the region of Visakhapatnam. Significant variations of AOD have been observed during course of the day with low values of AOD during morning and evening hours and high values during afternoon hours. Results suggest that during high relative humidity and stable conditions, the AOD is found to be relatively low (clear day) as compared to unstable meteorological conditions.

**Keywords:** Aerosols; Aerosol optical depth; Total column ozone and precipitable water content.