



Rayleigh Lidar Observations of Long-term Variations in Middle Atmospheric Temperature over Gadanki (13.5N, 79.2E)

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The Rayleigh (Nd:Yag) lidar has been operated by NARL, Gadanki (13.5N, 79.2E) since March 1998. The temperature data for the altitude region 30-80 km have been derived from the number of photon counts received by the Rayleigh receiver. The temperature data thus derived have been used to study long-term variations in the stratosphere and mesospheric temperatures. As there could be possible sources of errors that may affect the temperature measurements, the lidar instrument and the temperature retrieval algorithm are analyzed to bring out instrumental and procedural bias free temperature trend in the middle atmosphere over the low-latitude site, Gadanki.