Energy profile of the atmospheric waves by Rayleigh lidar observations in India (13N,79E)

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Communications Research Laboratory and NMRF, India started Rayleigh lidar observations in Gadanki, India (13N,79E) since January 1998. We analyzed gravity waves observed with this lidar and compared them with the previous lidar observations at mid-latitude stations.

In the stratosphere the gravity wave energy was larger in India than that in the mid-latitude, which is probably due to the stronger wave generation in the equatorial region. On the other hand, in the lower mesosphere the activity in the equatorial region is similar to that in the mid-latitude, suggesting that the gravity wave saturation limits the wave energy at these altitudes.