Insights into Cirrus Dynamics and Microphysics from the Seasonal Cycle of Cirrus Observed by Lidar over the Tropical Inland Station Gadanki, Tirupati, India

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Cirrus clouds influence the local and global radiation energy budget by reflecting and absorbing solar radiation and also by absorbing and emitting thermal infrared radiation. The radiative effects of cirrus clouds on the climate system depend on their optical and microphysical properties. Besides geometric cloud height and thickness, ice water content, and ice crystal size, the ice crystal shape is an important factor influencing the radiative properties of cirrus. In the present work we report on cirrus cloud geometry ,ice water content, ice crystal size in seasonal cycle of cirrus during the period of 2008 at the tropical inland station Gadanki (13.5^0N, 79.2^0E), Tirupati, India using the National Atmospheric Research Laboratory (NARL) Lidar. We have investigated the radiative effect of the cloud height and its contribution in local climate of this location.

Keywords: Cirrus; Lidar.

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