

# **Structure of a long duration thunderstorm over south India during February**

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A long duration thunderstorm occurred over Kerala centered over Kochi (10°N, 76°E) during the first week of February in 2003. The thunderstorms are very rare during this month over the area so it has gained peculiar characteristics. We studied the characteristics of the thunderstorm using Meteosat pictures and data from radiosonde and studied the large scale features using NCEP/NCAR reanalysis dataset. From the satellite pictures, it is clear that the thunderstorm had lasted more than eight hours with wide spread rainfall. The stability indices such as K Index, Showalter Index and Total total Index show all the conditions to trigger a severe weather system, so that we can able to give an indication for the formation of such a severe weather from one or two days before. During day of thunderstorm the wind pattern over the entire atmosphere changes and the relative humidity increased by 90% up to an altitude of 400 hPa. The values of relative humidity may retain there to some extent and gradually vanishing and reached its ambient value. One of the notable features is turning of thunderstorm in a clockwise direction from the North South to Northeast Southwest direction and this turn is attributed to the large momentum of air from the intruded subtropical westerly Jetstream that imparted over the thunderstorm super cell.