Nightglow imaging observations of different types of events on the night of February 15, 2007 from Tirunelveli (8.7^{o}N, 77.8^{o}E)

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All-sky imaging observations on the night of February 15, 2007, from Tirunelveli (8.7^{o}N) revealed a variety of short period short scale dynamical events comprising of atmospheric gravity waves, ripples and few prominent mesospheric fronts. A total of 10 events, excluding short scale ripples of wavelengths < 10 km, were identified. All the ripples of wavelengths less than 10 km were found to propagate nearly at same direction and they are dominant in the early part of the night. At least three of the identified events were mesospheric fronts. Apart from these events there were several quasi-coherent features that were not clearly discernable to deduce propagation velocities or wavelengths. Few of the observed gravity wave and frontal phase fronts were curved indicating a nearby source. The OH nightglow intensity in the early part of this night was found to be approximately twice than that on the other nights on this campaign. The reason for such an increase is investigated. In order to understand the events better we have used winds measured by collocated MF radar to derive intrinsic wave parameters. In addition, two sets of temperature measurements made by SABER instrument onboard TIMED mission were used. One set of temperature measurements were made near the start of imaging observations while the another set was near the end of observations. We have also attempted to infer the source of the waves and the effects of wind filtering at altitudes below the nightglow emission heights.