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Oral
Atmospheric temperature profiles observed by COSMIC 2, METOP and TIMED/SABER over South American sector were employed to study the coupling of the troposphere, stratosphere, and mesosphere through the dynamic process of Atmospheric Gravity Waves (AGWs). The momentum flux (MF) and potential energy (EP) parameters derived from the temperature profiles are used to identify the characteristics of gravity waves. The MF parameters are derived using the three temperature profiles of COSMIC 2 and METOP satellites data and two temperature profiles of TIMED/SABER satellite data. The MF showed a clear monthly and seasonal variation of the flux. The EP showed the highest Ep values in the Summer months and lowest in the winter months. Also found that the nighttime EP density is higher than the daytime EP, which showed that the gravity waves propagate further at nighttime than the daytime. Temporal and spatial variations of the EP, MF, vertical wavelength, the cold point height and temperature, and the tropopause height and temperature over the South American region will be presented and discussed.
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