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Global Structure of Brunt Vaisala Frequency as revealed COSMIC GPS Radio Occultation
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COSMIC GPS RO data were utilized to investigate the atmospheric stability through deriving Brunt Vaisala frequency (N^2) from temperature profiles. N^2 is calculated using 100 m height difference and averaged into 1 km resolution. Height versus latitude section of N^2 showed the sharpness of tropopause layer. It depicted a very stable condition of the stratosphere layer. The deviation of N^2 in the equator region pronounced clearly relation with QBO phase. Time variations of the structure of N^2 in the stratosphere of polar region between northern hemisphere (NH) and southern hemisphere (SH) are quiet different. An annual oscillation is described in the SH showing the polar night jet during winter season, whereas in winter season of NH the atmospheric stability are influenced by sudden stratosphere warming. An annual oscillation is also depicted in the equator region through time versus longitude diagram of N^2 at 17 km that represent the fluctuation of tropopause layer. Time longitude diagram over 30N latitude at 15 km for the global region showed eastward propagation of atmospheric waves.

キーワード: Brunt Vaisala frequency, COSMIC, GPS RO
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