

Simulation of convectively generated gravity waves and airglow modulation

Takeshi Horinouchi[1]

[1] RASC, Kyoto Univ.

Atmospheric gravity waves generated by tropospheric cumulus convection are studied by using a cloud resolving model. It has been shown that some of the waves do reach the mesosphere and lower thermosphere region, which break and create airglow modulations such as in the 557.7-nm emission from atomic oxygen. Further numerical experiments are made to elucidate the effect of the lower and middle atmospheric mean conditions and the wave generation mechanism.