

The Role of Convection in Tropospheric-stratospheric Interaction under Radiative-convective Equilibrium Simulation

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Introduction: Long-term RCE simulation can accumulate the effects of convectively generated gravity waves on the lower stratosphere and oscillate the wind field. We used the three-dimensional vector-vorticity equation cloud-resolving model (VVM) with long domain size (1024km × 32km × 26km) and high spatial resolution (2km × 2km × 200m) to run a 755-day long simulation. Through the well convective variability of model, we can analyze the interaction between zonal wind oscillation from the lower stratosphere and different structure of convection.

