

P55 Including stochastic parameter perturbations into Thompson-Eidhammer microphysics scheme.

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Using the Stochastic Parameter Perturbation (SPP) method of Berner et al (2017), three separate aspects of the Thompson-Eidhammer aerosol-aware scheme were perturbed and evaluated against GOES-16 satellite observations. Sensitivity experiments were performed for convection-permitting resolution (3km) over the Continental U.S. in association with the NOAA Hazardous Weather Testbed. Perturbations were made to (1) the Y-intercept of the graupel size distribution; (2) the shape factor of the cloud water size distribution; and (3) the activation of aerosols as CCN and IN. Tests were conducted with individual aspects alone as well as various combinations.