



Investigation of aerosol indirect effects on simulated moist convections using the double-moment bulk microphysics scheme

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Aerosols indirect effects on simulated moist convections have been investigated with the bulk-type WDM6 microphysics scheme (Lim and Hong 2010). The impact of the aerosol concentration on the simulated storm was evaluated by varying the initial CCN number concentration in the WDM6 microphysics scheme. We have tested several moist convection cases such as idealized squall line, supercell storm, and 3D-moist real convection system and analyzed the aerosol indirect effects focusing on the storm development and surface precipitation. Furthermore, we have proposed the refined treatment of a cumulus parameterization scheme to establish a comprehensive understanding of aerosol indirect effects on the globe.