Evaluation of CASIM microphysics using DSD bulk parameters and its improvement for monsoon weather extremes

Jayakumar, NCMRWF

The Drop Size Distribution (DSD) analyses are widely used to investigate the nature of underling microphysical processes of precipitation events. DSD bulk parameters is estimated for the double moment cloud microphysical scheme (CASIM : Cloud Aerosol Interacting Microphysics) used in the 4km operational convection permitted model of NCMRWF. The study comprehensively compares the model estimated DSD bulk parameters from CASIM against ground based disdrometer (JWD) and GPM-DPR. DSD nature of the warm microphysical processes using more advanced autoconversion schemes for the extreme precipitation and lightning episodes will be presented. Outcome of the work warrants the scope of improvement in the CASIM for the prediction of monsoon extreme events over tropical Indian region.