



A Numerical Simulation Method for Water Cloud Resource and Application

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This study designs an algorithm for calculating feature variable of water cloud resource in the cloud microphysical scheme independently developed the Chinese Academy of Meteorological Sciences (CAMS). This CAMS scheme is then coupled to the Weather Research and Forecasting Model, followed by corresponding simulation tests. The result show that the simulation for the precipitation of month which April and August has good performance through comparing with the observation data. Basic consistence could be found between simulated and observed feature variable of water cloud resource. Analysis about moisture budget showed that the water substance was generally balanced which the water vapor and hydrometeor in the count area. Further analysis the mutual relations of the total water vapor, total hydrometeor, condensation efficiency of water vapor, precipitation efficiency of hydrometeor and simulation of the renewable water vapor cycle and hydrometeor.