

P9 Polarization radar reflectivity calculations using the output of bin microphysics

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A new technique for radar reflectivity calculation has been developed related to the simulation of the microphysics by bin scheme. A reflectivity calculation module is available in WRF for bulk schemes based on Ulrich Blahak's work. This method is applicable to estimate radar reflectivity for different hydrometeors derived from the bulk simulation. In addition to the reflectivity the polarization radar reflectivity parameters for each type of hydrometeors (i.e. water drops, snowflakes, graupel particles which are included in the bin scheme) are calculated in a new code. The new code is adequate to simulate the increasing radar reflectivity factor ('bright band') in the melting layer in relation to melting particles. Furthermore the method for taking various properties of precipitation types into account for polarization radar reflectivity simulations to take advantage of detailed microphysics. In the future we intend to verify the method compared with measurements. Also we intend to expand the code for a new hydrometeor category of hail in the bin microphysics scheme.