



An explicit microphysics thunderstorm model sensitivity study for understanding the cloud electrification process.

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We run the 1.5-D EMTM (Explicit Microphysics Thunderstorm Model), developed at University of Washington, to simulate the convective cells of different storms occurred in the same time period (4th up to 6th August 1999) over Northern Italy. This allowed us to infer microphysical properties of all the different simulated cells. The outputs from EMTM model (microphysics and dynamical quantities, lightning type and flash rates, vertical cloud profiles) have been compared to observations collected by different ground based sensors (Cesi lightning network, ground based Fossaloni di Grado, Gorizia, Italy, C-band Doppler radar, raingauge network).

We have performed a microphysical study for better understanding the formation of the electrified hydrometers (which high? Which WV amount need? Which is the importance of the updraft for the related lightning formation?).