Uncertainty in numerical simulation of deep moist convection dynamics

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Deep moist convective processes in simplified atmospheric scenarios (e.g. single un-sheared cell, supercell, radiative convective equilibrium) are studied by means of high resolution numerical simulations with Lokal Model. The analysis of the spatio-temporal structure of convective field is carried out and the uncertainty in assessment of cell properties arising from computational approximation and physical details, such as grid spacing, 1D or 3D turbulence parameterization schemes and microphysics, is considered. Particular attention is paid to determine at what gridspacing the convection-resolving solutions statistically converge from a turbulence perspective with respect to flow field structure, transport properties and precipitation forecast. Preliminary results with analogous simulations performed with WRF will be discussed.