High resolution numerical modelling of moist convection in statistical equilibrium: buoyancy and velocity scales

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High resolution simulations (meso- γ scale) of atmosphere in radiative convective equilibrium are performed by means of the three-dimensional, non hydrostatic, convection explicitly solving limited area model, Lokal Model. Prescribing different constant cooling rates to the system, the characterization of velocity and buoyancy scales for moist convection in statistical equilibrium is addressed. The dependence of fine scale spatio-temporal properties of convective structures on numerical and physical details such as horizontal grid spacing, microphysics schemes and turbulent closure is investigated. Preliminary intercomparisons between Lokal model and WRF results for common convective scenarios are discussed.