Geophysical Research Abstracts,
Vol. 11, EGU2009-1036, 2009
EGU General Assembly 2009

Mesoscale analyse of severe convective situations over Romania, using COSMO model

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In this paper, some mezoscale details of severe convective situations which occurred over Romania between 2005-2008 are analyzed using forecasts provided by Cosmo non-hydrostatic model at high resolution (2,8 km) allowing the identification of remarkable development of the super-cells. In these fields, the elements that have been analyzed are: convergence lines in wind field, tropopause break areas and discontinuity lines in humidity field. All these are basic “ingredients” in the development of severe convective storms. Radar reflectivity is compared to numerical model simulations of pseudo-radar reflectivity. The numerical results are found to be very useful for the now-casting forecast in the prediction of severe storms.