



## Sensitivity experiments of a severe rainfall event in north-western Italy: 17 August 2006

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**Abstract.** This study is embedded into a wider project named "Tackle deficiencies in Quantitative Precipitation Forecast (QPF)" in the framework of the COSMO (**CO**nsortium for **S**mall-scale **MO**delling) community. In fact QPF is an important purpose of a numerical weather prediction model, for forecasters and customers. Unfortunately, precipitation is also a very difficult parameter to forecast quantitatively. This priority project aims at looking into the COSMO Model deficiencies concerning QPF by running different numerical simulations of various events not correctly predicted by the model. In particular, this work refers to a severe event (moist convection) happened in Piemonte region during summer 2006. On one side the results suggest that details in orography representation have a strong influence on accuracy of QPF. On the other side COSMO Model exhibits a poor sensitivity on changes in numerical and physical settings when measured in terms of QPF improvements. The conclusions, although not too general, give some hint towards the behaviour of the COSMO Model in a typical convective situation.