



## **Mesoscale Analysis and Modeling of a Severe Thunderstorm and its Interaction with Foehn-dried Air at the Northern Alpine Slope.**

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Severe convection is one of the most challenging meteorological phenomena not only for numerical modeling but also for routine forecast operations and warning procedures. On 23rd July 2009 a severe rightmoving supercell storm moved across the whole west-east extent of the northern Swiss alpine slope and adjacent areas on the plateau, causing widespread hail and wind damage.

In this case study the mesoscale storm structure is investigated using both observational data as well as numerical simulations from the operational Swiss COSMO-model suite. Special emphasis is put on a specific phase of the storm's life cycle, when it moved from an environment characterized by warm and moist boundary layer air into an area of Foehn-influenced, dry and hot air confined within the alpine valleys.