



Radar study of a convective storm with splitting cells in a mountainous region above Central Germany

Tim Böhme

Germany (Tim.Boehme@dwd.de)

Around Whitsun 2014 several heavy thunderstorms moved over Germany on successive days. Most of these storms were generated and intensified very fast in humid and unstable air masses and caused serious damage.

A case study will be presented which shows the development of a heavy thunderstorm cell which was induced when the air mass was forced to rise near Kahler Asten (842 m above sea level), the highest mountain of North Rhine-Westphalia. Shortly after intensification, the cell divided twice into two parts, one moving to the left (northwestwards), and two moving to the right (eastwards). The left moving cell continued to exist for another 2 hours. While the second right moving cell disappeared within 30 minutes, the first right moving cell continued to develop for several hours during the night, covering a distance of several hundreds of kilometres.

This case study shows impressively both the typical dominance of right moving split cells in vertically strong meso-scale shear conditions and warm air advection and the capability of high-resolution observations of the new dual-pol radar network of DWD to clearly identify and track convective cells. Additional operational lightning, satellite, nowcasting object and ground data will be also presented.