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The use of radar-based hail detection methods in central Europe

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Damaging hailstorms are rare but extreme and severe meteorological phenomena in the central Europe. Because of the time and space variability, the exact detection of hail from ground measurements is almost impossible. There are several algorithms using C-band Doppler radar data, which can evaluate the hail proper location and the time of hail occurrence. Selected algorithms were tested on several well documented recent (2002-2011) hail events from Czechia and southwest Germany. The verification showed that the Waldvogel technique and the NEXRAD severe hail algorithm are the most accurate in the central Europe. In the poster, optimal threshold values selected methods will be discussed.
A new criterion for hail detection is formed by combination of the previously tested methods. Skill of this criterion is shown for several hail events and its ability to provide information about hail-fall area distribution and hail damage risk over the Czech territory is considered.