



Evaluation of hail suppression programme effectiveness using radar derived parameters

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The objective of this study is evaluating “the operational hail suppression programme” in the province of Styria, Austria “for the year 2015”. For the evaluation purpose the HAILSYS software tool was developed by integrating single polarization C-band weather radar data, aircraft trajectory, radiosonde freezing level data, hail events and crop damages information from the ground. The hail related radar derived parameters are: hail mass aloft, hail mass flux, probability of hail, vertical integrated hail mass, hail kinetic energy flux, and storm severity index. The spatial maps of hail kinetic energy and hail mass were developed to evaluate the seeding effect. The time history plots of vertical integrated hail mass, hail mass aloft and the probability of hail are drawn over an entire cell lifetime. The sensitivity and variation of radar hail parameters over time and associated changes due to cloud seeding will be presented.