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## Assessing uncertainty in radar measurements on simplified meteorological scenarios

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**Abstract.** A three-dimensional radar simulator model (RSM) developed by Haase (1998) is coupled with the nonhydrostatic mesoscale weather forecast model Lokal-Modell (LM). The radar simulator is able to model reflectivity measurements by using the following meteorological fields, generated by Lokal Modell, as inputs: temperature, pressure, water vapour content, cloud water content, cloud ice content, rain sedimentation flux and snow sedimentation flux. This work focuses on the assessment of some uncertainty sources associated with radar measurements:

1. absorption by the atmospheric gases, e.g., molecular oxygen, water vapour, and nitrogen;
2. attenuation due to the presence of a highly reflecting structure between the radar and a "target structure".

RSM results for a simplified meteorological scenario, consisting of a humid updraft on a flat surface and four cells placed around it, are presented.

Full Article in PDF (PDF, 1187 KB)

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