

Interactive comment on “Close-range radar rainfall estimation and error analysis” by R. van de Beek et al.

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The calibration of the radar using the radar equation is only valid for range gates in the far-field of the antenna, i.e. beyond the Fraunhofer distance $d=2D^2/\lambda$, D =antenna diameter, λ = wavelength. For the radar considered in this paper the Fraunhofer distance is 670m, i.e. the analyzed range gates are in the far-field. Another potential error originates from the T/R limiter of the radar. After the transmitter pulse is finished the limiter needs some time to recover. The older the limiter the longer is the recovery period. It is possible that there are a few tenth of a dB up to 1dB of attenuation even after several microseconds. Since the the distance of the first range gate is only 1km some additional attenuation is quite possible if the limiter is old. Unfortunately the attenuation of the limiter cannot be measured in the same way as the waveguide insertion losses.

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