

Atmos. Meas. Tech. Discuss., author comment AC1  
<https://doi.org/10.5194/amt-2021-219-AC1>, 2021  
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## Reply on RC1

Alessandro Battaglia

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Author comment on "Impact of second-trip echoes for space-borne high-pulse-repetition-frequency nadir-looking W-band cloud radars" by Alessandro Battaglia, Atmos. Meas. Tech. Discuss., <https://doi.org/10.5194/amt-2021-219-AC1>, 2021

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Thanks for the suggestions.

Concerning the comment "could you elaborate on how you think the mirror echoes add any information" here we have simulated mirror image to the ``best of our knowledge". A correct simulation of mirror images require a correct estimate of  $\sigma_0$  and of the attenuation between the mirror and the ground. As a result checking that measured mirror images reflectivities are properly simulated is an indirect check on  $\sigma_0$  and PIA estimates. In principle in (light) rain mirror echoes could be used to cross check whether the attenuation correction algorithm is producing a realistic attenuation profile .