

Public justification (visible to the public if the article is accepted and published):

Dear authors,

thank you for your technical corrections. The figures are all much better readable.

Thank you for your acknowledgement. We replotted Figs. 2, 3, 7 and 8 in our revision because we changed the “dBZ” to the “dB”. We also hired a wordsmith to correct the English language, grammar, punctuation, and phrasing.

Concerning the dBZ and OmB discussion: I think there was a mis-understanding. I think there is no need to explain why radar reflectivity factor is expressed in dB. You can find detailed explanations for it in any radar textbook. So I recommend removing your comments in L. 25-27. In fact, any quantity that one expresses in dB must be unitless since the log of any unit is physically not defined. So speaking about units in terms of dBZ is physically nonsense even though it is widely done in the scientific literature. My point was, that it is common practice in radar meteorology to remove the "Z" in dBZ as soon as (logarithmic) reflectivity differences are concerned. Even though dBZ is strictly speaking already unitless, a difference in log-space (which is a ratio in linear space) is "even more" unitless. Take for example differential reflectivity ZDR which is the difference in dB of Z_{e_h} - Z_{e_v} . Same applies for linear depolarization ratio (LDR) or dual wavelength ratio (DWR), they are all expressed in dB rather than dBZ. I leave the decision up to you which community conventions you like to follow. From my perspective, reflectivity differences of whatever kind should be in dB rather than dBZ.

Many thanks for your explanation. We decided to follow the convention in radar meteorology since this study mainly focuses on improvements on Gaussianity of reflectivity OmB, which falls in the scope of techniques of radar data processing. So we changed “dBZ” to “dB” in our revision.

So as soon as you came to a conclusion, please submit your final version and then I think your manuscript can be forwarded for the final processing step.