

Interactive comment on “An integrated approach to monitor the calibration stability of operational dual-polarization radars” by M. Vaccarono et al.

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I was excited when reading the title and abstract of this paper because I think it's a very important part of radar meteorology that does not often get the attention it deserves. In particular the combination of all existing methods was appealing to me. However, when reading the remainder of the paper I was disappointed because only examples of the different existing methods are shown, and only a very brief and superficial attempt at combining them is made. Because to me this is the major novel aspect of this paper, I think this part should be greatly elaborated. It would be nice to be able to combine all of the known techniques (including what we know of their shortcomings) so that automated warnings can be generated with an indication of where the problem is most likely to be.

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I also think that for monitoring of operational radars (as indicated in the title of this paper), the methods should be able to work unattended. The self-consistency method as it is presented in the paper relies heavily on manual selection of “suitable precipitation data”. I think the authors should be able to come up with a simple objective method to automatically select events/radar pixels suitable for the self-consistency method, so that it can be used in an operational setting.

The self-consistency method is influenced by

1. variations in the raindrop size distribution (as remarked in Section 5 this can be up to 3-4 dB)
2. Z_{DR} miscalibration (there is some uncertainty regarding this, see Figs 4 and 5)
3. noise in k_{DP} estimates.

It would be very nice to get an idea of how these affect the results of this methods. And such information can be used in subsequently combining the different calibration monitoring techniques.

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