

Interactive comment on “The Disdrometer Verification Network (DiVeN): a UK network of laser precipitation instruments” by Ben S. Pickering et al.

Frederic Fabry (Referee)

frederic.fabry@mcgill.ca

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* General comments:

The authors described and reported on the performance of a disdrometer network in the UK. I have found the work well written and without significant scientific flaws, as well as being of interest to precipitation researchers. For these reasons, I recommend publication after minor modifications.

* Specific comments

1) Page 3, line 22: "As of the time of writing this publication, operational net-

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works of disdrometers are uncommon". This may be true of optical disdrometer, but radar-based units have been used operationally for example in Canada to determine precipitation type from the early 1990s to about 2010 on all automatic stations. See <https://journals.ametsoc.org/doi/full/10.1175/2007JTECHA957.1> and references therein.

2) Page 4, line 32, or somewhere else: What is the quantitative meaning of the quality index? For example, what does an index of 90% mean, beyond being better than one of 80% and worse than 95%?

3) Page 6, lines 9-11 : Given the simplicity of your assumptions (all drops measure 0.8 mm), I would reduce the reported accuracy of your probability of simultaneous occurrence to a single digit of precision, i.e., 0.09% and 7%. And at 0.8 mm, these are drops, not "droplets" (line 6).

4) To what extent do you need Sections 3.2 and 3.3? I'll leave it to you to decide.

5) Page 11, line 26-27: "[The Doris event] will be a valuable case by which to compare the performance of radar hydrometeor classification schemes.". Yes and no: It depends on the altitude of radar measurements compared to your ground-level measurements. In such events, if melting occurs at too low altitude, the radar may be blind to it. There are hence two aspects to HCA performance: Accuracy at altitude, and representativeness of the assessment at altitude to surface conditions, both of which being two very different research projects.

6) Page 12, line 20, on the effect of wind: A strong surface wind would also often create strong surface turbulence that may affect drop vertical velocity in addition to worsening edge effects.

* Technical corrections, typos, etc :

Page 5, line 4: Section 44.1 -> Section 4.1

Page 5, line 30: 0.5 mm snow aggregate -> 0.5 mm ice crystal

Page 6, line 13: Section 44.2 -> Section 4.2

Page 11, line 26: its' -> its

Page 12, line 10: Waldvögel -> Waldvogel

Table 3 title: Disrometer -> Disdrometer

Figure 13: Can you fix the alignment problem between the line plots (reporting on the minute mark) and the hydrometeor determination graphics (plotted in between the minute marks)?

Interactive comment on Atmos. Meas. Tech. Discuss., doi:10.5194/amt-2018-302, 2018.

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