



EGUsphere, referee comment RC1
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Comment on egusphere-2022-532

Anonymous Referee #1

Referee comment on "Assessing and mitigating the radar-radar interference in the German C-band weather radar network" by Michael Frech et al., EGU sphere, <https://doi.org/10.5194/egusphere-2022-532-RC1>, 2022

This manuscript describes how DWD tries to minimize the effects of radar - radar interferences in the German weather radar network. In a unique experiment using five operational and one research radar the effects were assessed and evaluated. The manuscript is very comprehensive and certainly deserves publication in AMT after minor changes.

There are two points which could be elaborated in more detail:

- the definition of STD is not precise and seems to be a special product of the GAMIC signal processor. Also, the Schaper et al. 2022 preprint does not give sufficient details. In line 56 STD is defined as the standard deviation of the power using I&Q data. In Schaper et al. 2022 it is defined as a normalized standard deviation of received power. Obviously, the expected range of 0 .. 1 implies normalization. But to which value? What is "mean" STD (line 62) in this context? The authors should give more details for users not familiar with the GAMIC signal processor. I also can not follow the statement that STD app. 0.5 indicated all pulses have the same power (line 156). If in a timeseries all data have the same value, standard deviation is 0! SQI has a more common definition, it is provided by a number of signal processors, and is generally defined as the magnitude of autocorrelation lag 1 divided by autocorrelation lag 0; or simply 1 by (spectral width normalized with Nyquist interval). Assuming that Tx phase is removed from measured phase angle.

- the authors should give some more explanation why the interferences are reduced in the case where all radars operate with the same PRF (line 187).

Minor remarks:

Line 30: is 2 km in Fig.1

Line 41: explain PRF

Line 110: receive end: MHP? Transmit end: other radars?

Line 125: H_b above radar?

Line 154+155: better: The received power is independent from range.

Line 229: refer to Table A2 for the elevations used by PCP at MHP

Figure 10: to what does 1.4 MHz refer? Red numbers at lower left side

Line 283: in Table A3 sweep 5 is at 0.5° elevation