

Interactive comment on “Performance of high-resolution X-band weather radar networks – the PATTERN example” by K. Lengfeld et al.

T.C. Mammen (Referee)

theodor.mammen@dwd.de

Received and published: 2 October 2014

The described technique of combining this type of radars is promising in getting more detailed precipitation structures compared to large network C-Band radars. The comparison with the Hamburg-C-Band-Network-Radar shows, that the technology and the methods used basically work. The wording of the text could be improved to support the understanding:

Basic Principle When looking at data from this type of LAWR in comparison to C-Band-Network-Radars the main difference in data acquisition should be kept in mind: Network-Radar: a range bin is acquired as a "snapshot" of about 40 Pulses, i.e. in about 50 ms. LAWR: the data for a bin is assembled as "long time exposure (compared

C2966

to network-radar)" since pulsedata are averaged over about 12 sweeps and 30 seconds This major difference should also be kept in mind, when looking at signatures from other radars at the same frequency: they may be quite different between the two types.

Clutter Since the bins that are identified as clutter are rejected and never corrected for clutterpower, this is usually called "Thresholding".

Calibration The described method with gage and MRR is very good approach and the comparison LAWR - Hamburg radar proves this to significant extent. Anyway it would be helpful to verify the calibration by using a calibrated external source (Test-Signal-Generator with standard gain horn).

Noisemeasurement The low PRF of 800 Hz gives the opportunity to use range bins far away (>150km) to make continuous noise measurements in addition to the described method.

Beyond this article it will be nice to see the development of this technique.

Interactive comment on Atmos. Meas. Tech. Discuss., 7, 8233, 2014.

C2967