

Interactive comment on “New algorithm for integration between wireless microwave sensor network and radar for improved rainfall measurement and mapping” by Y. Liberman et al.

Anonymous Referee #1

Received and published: 2 June 2014

General Comments

The subject of this paper is a simple weighted average integration of rainfall data from radar and wireless communication networks. I would suggest to remove also the remaining overstating words (like "novel"). Again, the authors should justify why the calibration against rain gauges is made for the integrated radar and microwave link data instead of the more logical approach to correct the various systems for the error appropriate for each system (e.g. the radar data for attenuation effects, beam blockage, clutter etc.), to calibrate separately radar and microwave link data against rain gauges and then to integrate them.

C1160

Specific Comments

Introduction: The authors still do not mention that the development of networks of small range radars is a research subject by many researchers. A data resolution of the order of 4 km and 30 minutes, which the author mention as sufficient for research and applications and is the resolution of data from wireless communication networks, is too coarse for critical subjects like flash flood research and warning, which is mentioned by the authors in the first statement of the introduction. Thus, the authors should give a description of the specific practical applications of their approach.

page 4485, lines 4-5: Replace the word 'or' between 'polarimetric' and 'Doppler' with 'and'. Modern radars are Doppler and polarimetric radar. These are not two contradicting options. The authors should note that they use an non-polarimetric (maybe non-Doppler?) radar, which has a significant effect on the accuracy of their radar rain estimation.

page 4490 line 10: Are the radar data so unreliable to avoid using them in places with good microwave links coverage? I would expect a comparison between them to show the quality (if they agree) of rain field estimation by these two different systems.

Interactive comment on Atmos. Meas. Tech. Discuss., 7, 4481, 2014.

C1161