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Comment

Interactive comment on “Coded continuous wave meteor radar” by J. Vierinen et al.

Anonymous Referee #2

Received and published: 13 November 2015

The paper “Coded continuous wave meteor radar” is clearly written and methodically presents the theoretical and applied aspects of a project that will be of significant interest to the atmospheric and radio science communities. The authors present an outline of the operation of a novel multi-static radar system using low power coded continuous wave transmission to achieve comparable and, in some cases, superior results to conventional radar systems. This is likely to produce substantial efforts to produce similar systems by other researchers, for which this paper will be a valuable reference.

A few minor corrections and additions are recommended prior to publication.

Page 7880, line 20: Substitute “ablating” for “burning”.

Page 7880, line 26: Replace semi-colons with commas in this sentence.

Page 7880, line 26: Herlofson 1947 would be the original reference for the theory of

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specular meteor radar echoes.

Page 7881, line 10: The reference to Jones 1998 found later in the paper (section 4) would be better introduced at this earlier location.

Page 7881, line 11: There should be a reference to Tsutsumi 1994, in addition to Hocking 1999.

Page 7883, Line 4-5: Change to read “. . .capability to receive multiple. . .”

Page 7884, line 7-9: There are a number of factors that go into the cost of a radar, so it seems odd to state the financial savings with such specificity. I believe the paper would be better off without this sentence or a broader statement about cost reduction.

Section 3 is a well written description of dense mathematical concepts. It is difficult to find fault with.

Page 7893, line 16: “a one to one”

Page 7893, line 20: A minor complaint: Throughout the description of the CW radar, it was discussed in terms of continuous power, but now the authors use peak power. They may wish to change this for the sake of consistency.

Page 7894, line 7-8: Change to read “. . .prototype has been used to demonstrate that the principle of coded CW SMR can be used. . .”

Page 7896, line 13: It is my understanding that SuperDARN radars, at least the digital upgrades, already use a pseudo-random pulse interval scheme to deal with the large distances involved. Is this substantially different from the coded CW design?

Interactive comment on Atmos. Meas. Tech. Discuss., 8, 7879, 2015.

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