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Atmospheric Measurement Techniques Discussions

Interactive comment on "Coded continuous wave meteor radar" *by* J. Vierinen et al.

Anonymous Referee #1

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This paper begins its abstract by saying

"The concept of coded continuous wave meteor radar is introduced."

This is quite ironic - I would very much like the authors to look at this paper

Elford, W., and D. Robertson, Measurements of winds in the upper atmosphere by means of drifting meteor trails II, J. Atmos. Terr. Phys., 4 , 271-284, 1953.

In this paper, early meteor measurements were made (prior to 1953!) using a CW mode with coding. In that case the coding comprised a pulse overlaying the CW signal, which may not be as sophisticated as the newer codes, but it is nonetheless a coded CW system.

Quoting from the paper by Elford and Roberston:

"To determine the position of the trail in space, both the direction of arrival of the sky wave and the slant range of the reflection point must be measured. The latter is determined by pulse-modulating the transmitted signal above the CW"

The paper also refers to an even earlier paper by

MANNING, VILLARD and PETERSON (1950) who described a C. W. doppler system on 23 mc.

So for these current authors to claim to INTRODUCE coded CW technqiues is very misleading. They are re-introducing a 60 year-old technique, at best.

I would very much like to ask the authors to adjust the title and to remove the introductory statement of the abstract, and give better recognition to those who have gone (long) before. The actual coding that is used here is different - true (but not very well detailed). But the concept is not. The authors should focus on what is new, not try to pretend they have invented the idea.

In addition, in the first paragraph of the introduction, the authors refer to some "early works" by McKinley, Sugar etc. These papers were about 10 years after the first meteor studies - the first were by Manning e.g.

Manning, L., The theory of the radio detection of meteors, J. Applied Phys., 19 , 689-699, 1948. Manning, L., O. Villard, and A. Peterson, Meteoric Echo Study of Upper Atmosphere Winds, Proc.Inst. Radio Engrs, 38 , 877-883, 1950.

and then followed by the papers by Elford and Roberston.

It would be respectful to modify the paper to be more historically accurate and recognize those who developed similar ideas so long ago.

Please also note the supplement to this comment:
http://www.atmos-meas-tech-discuss.net/8/C2883/2015/amtd-8-C2883-2015-supplement.pdf

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