

Interactive comment on “Radar and optical leonids” by N. Brosch et al.

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The use of time coincidence to associate radar and optical events is an established practice in the field. It may be flawed, but this is what we have available at present. The number of chance coincidences expected has been evaluated and the method has been explained in the paper; we see no reason why this should not be correct. We did not claim that the radar is seeing either body or head echoes and, in fact, we have no way of knowing what the echoes are. The technique of height determination is simple and direct, in principle: given that this is a phased-array radar, a synthesized beam (with extremely low sidelobes) is continuously scanning a sky region of approximately one steradian. Returned echoes are characterized by their direction angles. From this, and the accurate knowledge of the radar installation location, the position of the radar echo is established. As explained in the paper, the radar we used is a classified, operational system and its results are extremely accurate (tens of meters or better to extremely long ranges and with no range doubling, etc.). We are very sorry that due to the nature of the installation, the data cannot be made public or cannot be inspected

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by other investigators. However, we point out that claims of high altitude meteors have been put forward by other investigators and have been published, although these do not reach as high altitudes as our results indicate. However, the published results do establish that a population of meteors showing up above 120-km does exist, and that at least from the optical appearance, such meteors seem to be 'different' than the regular ones. Finally, the issue of the ratio of sky covered by the radar and by the optical cameras has been described and explained in detail in the text; we see no reason why this needs to be repeated here.

Interactive comment on Atmos. Chem. Phys. Discuss., 4, 1425, 2004.

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