

Interactive comment on “Isolated lower mesospheric echoes seen by medium frequency radar at 70° N, 19° E” by C. M. Hall et al.

C. M. Hall et al.

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Thanks to the referee for the positive feedback.

Answers to “special remarks”:

1. For the first criterion, the altitude range 70 to 82 km was used because a priori it was envisaged that upper D and lower E-region echoed might still occur. In practice, however nothing is visible at the upper heights due to the absorption of the radio wave. For the second criterion, true, looking for maximum power as high up as 78 km is superfluous. In practice the regime 70–78 km is excluded anyway. As suggested, “78 km” should read “68 km”.

2. It cannot be excluded that auroral precipitation could conceivably cause such echoes; however with the exception of a few very short-lived events (e.g. as Ref-

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eree 1 points out in November 2004) we do not see night-side echoes. During the day, Tromsø is normally outside the auroral oval. Regarding the dearth of events in 2001 and 2002, we offer no explanation except that, as the referee suggests, we may need to “tune” the criteria, and can mention is in a revised text. In this study, however, we have chosen to keep the criteria constant. We apologize for omitting the study of Zeller et al from the end of Section 3 - this will be corrected.

3. There are a couple of unfortunate typos. On page 7416/line 7, it should, of course read “maximum” as is shown in the figure. On line 27 the electron neutral collision frequency is then greater in summer. This then results in a minimum absorption in summer. and finally, in Figure 7 the colours should be interchanged. With these changes, everything should be consistent and further elaboration on the calculations unnecessary.

4. Following the corrections outlined in point 3 above, no changes should be required to the conclusions.

On “small corrections” Apologies for these oversights - they will be corrected. On the plots the tickmarks are hard to see against the background - we will try to fix this.

Interactive comment on Atmos. Chem. Phys. Discuss., 6, 7407, 2006.

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