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Atmospheric Chemistry and Physics Discussions

Interactive comment on "Rocket measurements of positive ions during polar mesosphere winter echo conditions" *by* A. Brattli et al.

A. Brattli et al.

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Comment 1: This is a correct summary of our paper.

Comments 2-4: In frequency space we have used the following conventions: $\omega = 2\pi\nu$, where ν is frequency and ω is angular frequency. Likewise, in geometric space, we have used $k = 2\pi/\lambda$ (as stated in line 2 on page 7104), where k is wavenumber and λ is the wavelength. This is done throughout the paper, and can easily be verified by looking at the scales in figures 1 and 4 through 6 (bottom: wavenumber k, top: $2\pi/k$). Thus, there is no 2π ambiguity. We have used the terms wavelength and scale length interchangeably, which might have caused the confusion.

Comment 5: The referee has in fact left out a factor of 2π in the wavelength/scale length calculations, and the numbers cited in the comments are therefore not correct.

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We have calculated the dissipation energies using equation 15 and used the inner scale $l_0 = 2\pi/k$, following Lübken et al. (1993), as cited in the paper.

Comment 6: The intention behind plotting $k^{-5/3}$ lines in the plots were so the reader can decide for him-/herself if he/she thinks the slope agrees with a $k^{-5/3}$ spectrum or not. We have indeed made fits to the spectral plots, which we explicitly state in lines 6-8 on page 7104, but these are not plotted in the figures.

Interactive comment on Atmos. Chem. Phys. Discuss., 6, 7093, 2006.