

Interactive comment on “Mesospheric gravity wave activity estimated via airglow imagery, multistatic meteor radar, and SABER data taken during the SIMONE–2018 campaign” by Fabio Vargas et al.

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First, I would like to thank the reviewer for taking the time to evaluate our work. I hope to provide satisfactory replies to your comments in a timely manner.

Replying to the major issues found by the reviewer:

We recognize we need to expand the description of the data analysis to make it clear for the readers. Also, we believe the keogram spectral analysis would be understandable as we wrote, but it is obvious we need to specify it in more detail in the manuscript.

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Also, we are going also to give deeper thought to the possible aliasing of waves and will try to justify or minimize it. Because every image of a given airglow layer is taken at 10 minutes pace (the imager filter wheel cycle), we will only be able to resolve waves with 20 minutes or longer. However, we believe the aliasing is minimal in this case because the small scale wave's structure (horizontal wavelength less than 500 km) seen in the airglow images are sharp (no smudging).

we will also address the issue with the filtering of the horizontal wind for the wind fluctuations. the filtered wind is used to compare with the large scale waves in the airglow keograms. For correcting the wave period Doppler Shift, we use the total wind at the moment of wave detection, not the filtered wind nor the fluctuation.

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