

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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I have updated replies to two referee #1 comments. The ones presented in the "Full reply to referees" documents were not consistent with what was done in the paper.

line 293-294: The last sentence is enigmatic. If these larger amplitude waves are only seen in the O₂ emission but not below (OH, Na) or above (OI), it is quite puzzling. The fact that large amplitude waves are seen in the O₂ layer is surprising given the layers overlapping structures. This must be investigated separately. At this point, we

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don't have a good explanation. However, the O₂ has the narrower estimated FWHM for the campaign, and that would allow shorter vertical scale waves to be seen in the O₂ images, and consequently larger momentum flux waves would be measured there (see lines 311 -313). We have added to the text the following statement:

"We have added the following to that sentence: "It is not clear why the enhanced waves are seen most in the O₂ emission once the layer's peaks nearly overlap, but this could be related to the fact that the O₂ VER has the smallest FWHM (see Table 2). These shorter λ_z waves would be seen in images of the O₂ emission primarily, and their momentum flux would be larger for it increases as λ_z decreases (see Fig. 5i)".

Figure 7: Can you add a detection threshold? We have fixed that. We have added a horizontal line as a reference for the horizontal threshold.

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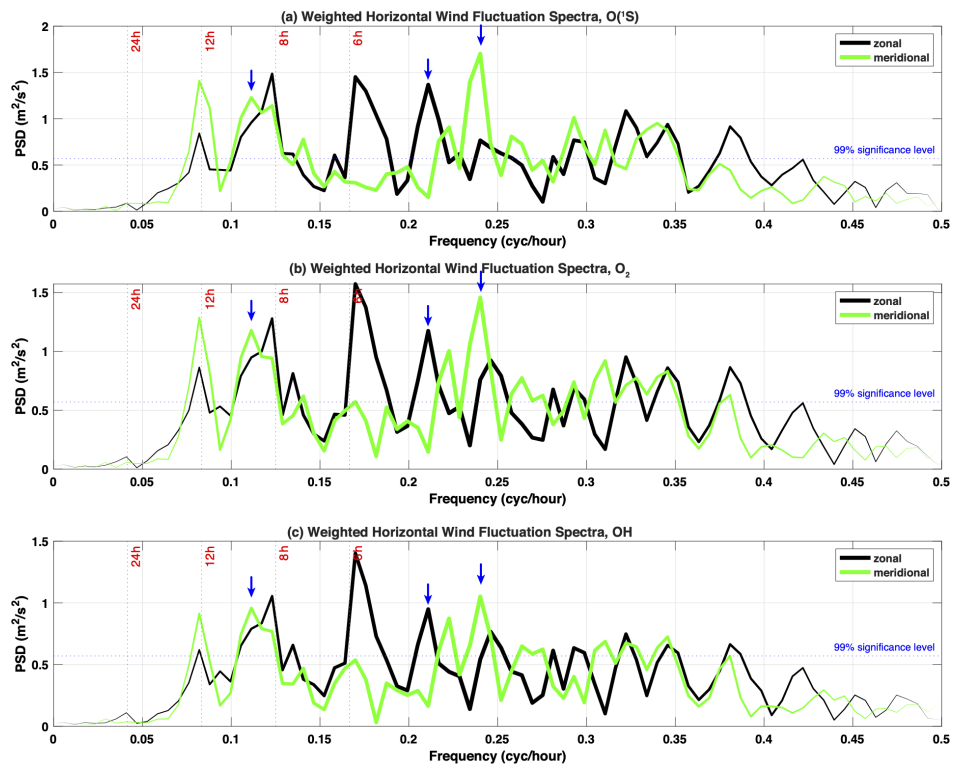


Fig. 1.