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Atmospheric Measurement Techniques Discussions

Interactive comment on "GROMOS-C, a novel ground based microwave radiometer for ozone measurement campaigns" *by* S. Fernandez et al.

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We would like to thank the referees for reading the manuscript, giving positive feedback and suggestions to improve it. Below is a detailed answer to all the comments made by the referee $\#1$.

- Comment 1:
Omit the section about CO observations for the time being, wait until you can write this part with the same accuracy as the rest of the paper

Response:

We agree with the reviewer that the section about CO observations is not as comprehensive as the ozone measurements and further research will be done in this context. However we think it is of importance to mention the capabilities of GROMOS-C and showing a measured spectrum of CO is a good example of what can be done. Actually also referee $\#2$ suggests to mention the CO line.

- Comment 2:
Change the frequency scale in Figure 1 to only show the range of interest e.g. 100 - 130 GHz or perhaps 100-150 GHz if you want to discuss the 142 GHz ozone transition. Doing this the different ozone lines and the CO line at 115.271 GHz would be seen in the simulation

Response:
Thanks for the suggestion. We have added the CO emission line in Fig 1. The frequency range has not been modified because we think it is important to include the water vapor line at 180 GHz.

Additional modification

Section 3, page 3019, lines 3-5 and equation 15 has been modified. New text:

It is noticeable that the noise level is higher for the ozone spectrum calibrated with the noise diode. This is expected because the noise diode spectrum itself is noisier than the spectrum of the other calibration targets, and because the errors are amplified by

the extrapolation towards the colder atmosphere.