

***Interactive comment on “Measurement of horizontal wind profiles in the polar stratosphere and mesosphere using ground based observations of ozone and carbon monoxide lines in the 230–250 GHz region: Proof of concept” by D. A. Newnham et al.***

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Your manuscript is very interesting. It is particularly notable how you benefit from the dry Antarctic atmosphere to push the upper limit of your measurement range to very high altitudes by using CO (in this context it might also be interesting to explain to the reader how you can retrieve at altitudes where Doppler broadening is dominating over pressure broadening). However, on page 4, line 27 I found a statement that disturbs me: You cite our paper (Rüfenacht et al., 2014) of wind retrievals with the wind ra-

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diometer WIRA as reference for your statement that baseline issues which can arise from standing waves or other sources are uncritical for wind retrievals from observations with Doppler microwave radiometers. However, it should be noted that in the cited paper we have only analysed the effect of a baseline ripple with a period and amplitude similar the one found in the data acquired with the wind radiometer WIRA. Such a baseline is indeed uncritical. Nevertheless one could imagine that other baselines (e.g. with faster oscillations) can influence wind retrievals. I would be grateful if you could modify your manuscript in this sense.

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[Interactive comment on Atmos. Meas. Tech. Discuss., doi:10.5194/amt-2015-406, 2016.](#)

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