

Interactive comment on “Influence of the spatial distribution of gravity wave activity on the middle atmospheric circulation and transport” by Petr Šácha et al.

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On behalf of all co-authors I would like to thank the referee for his comments, constructive feedback and the positive attitude towards improving the paper.

I would also like to inform the referee about our intention to upload our response rather gradually in parts- to give him the chance for possible interactive reaction. The simulations are quite time-demanding and depending on the number of additional simulations needed, we might not be able to react to the complete set of comments before the end of the interactive discussion.

Finally, I would like to point out, that some of the specific comments related to the

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comment 4 are outdated, since they relate to the original version of the manuscript not to the current version in ACPD. The manuscript underwent numerous changes during the revision process for publication in ACPD. For reference, I am enclosing the current version with marked changes from the original version.

Currently, together with the co-authors, we are discussing the comments 1) and 2). We acknowledge the referee for pointing out the "artificiality" of the 30 day mean in our results. We were aware of this, and therefore we always discussed the related time evolution and presented supplementary figures and animations to illustrate it. As the referee was afraid of - in this experimental set-up, we cannot claim that the key changes occur on a time scale <30days (See the attached Fig.1-Hovmoeller plot of amplitude of the first harmonic from FT of zonal wind at approx. 6hPa). In Fig. 1 one can also see the propagation of oscillations to the SH, which was erroneously assigned to inertia GWs, as was pointed out by the referee. Fig. 2 presents Hovmoeller plot of zonal mean zonal wind at 6hPa from a reference simulation.

I would like to thank you very much again and the first part of response will be uploaded soon.

Petr Šácha.

Please also note the supplement to this comment:

<http://www.atmos-chem-phys-discuss.net/acp-2016-548/acp-2016-548-SC1-supplement.pdf>

Interactive comment on Atmos. Chem. Phys. Discuss., doi:10.5194/acp-2016-548, 2016.

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Hovmoeller plot of wave1 amplitude (FT of u) difference

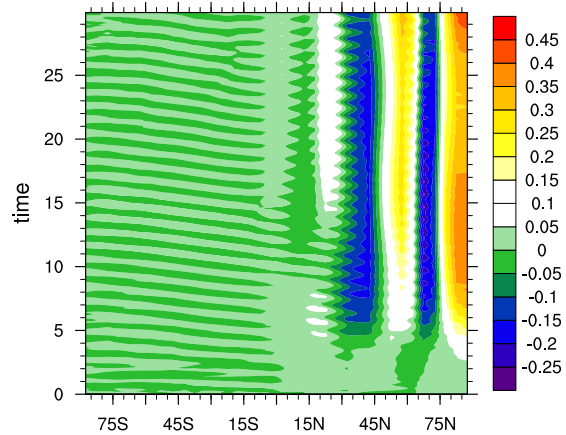


Fig. 1.

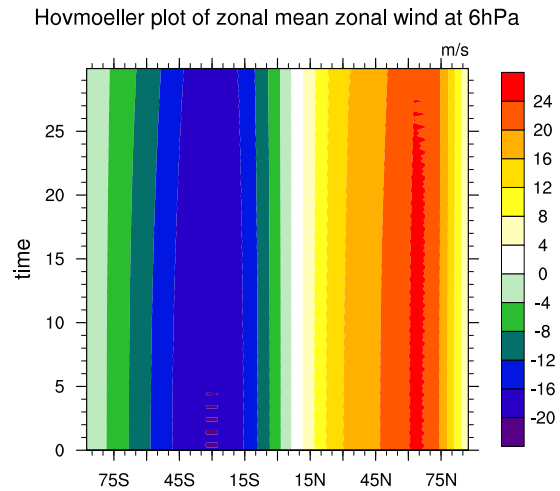


Fig. 2.