Many thanks to Petr Šácha for appreciating our work and his helpful comment!

Please find below our reply to the comment. The comment is given in red, our reply is given in black, and changes in the manuscript are indicated in blue.

(Comment by Petr Šácha:) Given that your introduction mentions mainly the lack of intermittency in the non- orographic gravity wave parameterization schemes, I would like to draw your attention to the study Kuchar et al. (2020). In this paper we have shown that the momentum fluxes in the orographic gravity wave parameterization scheme are highly intermittent compared to the non-orographic GW parameterization (see Fig. 7). Moreover, we have studied the intermittency of the resulting drag (not easily derivable from observations), finding it also highly intermittent (e.g. our Fig. 6). Consequently, in the recent study (Šácha et al., 2021) we have found that the intermittency has large implications for the influence of orographic gravity wave parameterization on the model dynamics and transport, which also underlines the importance of your current study.

Kuchar, A., Sacha, P., Eichinger, R., Jacobi, C., Pisoft, P., and Rieder, H. E.: On the intermittency of orographic gravity wave hotspots and its importance for middle atmosphere dynamics, Weather Clim. Dynam., 1, 481–495, https://doi.org/10.5194/wcd-1-481-2020, 2020.

Sacha, P., Kuchar, A., Eichinger, R., Pisoft, P., Jacobi, C., & Rieder, H. E. (2021). Diverse dynamical response to orographic gravity wave drag hotspots - a zonal mean perspective. Geophysical Research Letters, 48, e2021GL093305. https://doi.org/10.1029/2021GL093305

Thank you very much for this comment! In order to be more specific, we will add the following text after former l.81:

“While orographic gravity wave parameterizations can simulate a highly intermittent gravity wave distribution (e.g., Kuchar et al., 2020; Sacha et al., 2021) because they are driven by the highly variable near-surface winds, these simplified non-orographic gravity wave parameterizations are not coupled to realistic specific source processes. Therefore, they do not account for...”