Replies to reviewer#2

Thank you for your constructive and helpful comments. According to your comments, we have revised manuscript. For convenience, reviewer's comments are written in red below

Zonal means: The authors present only results for the zonal mean zonal wind. I would have liked to see temperature and meridional wind results as well. These are directly influenced by gravity waves, and play a crucial role e.g. for transports around the MLT.

We added effects of the GW drag on the zonal mean meridional wind and temperature in section 3.1.

Tides: the authors show semidiurnal tidal signatures. Are there any useful results for other tides, like diurnal or terdiurnal tide?

We added effects of the GW drag on the terdiurnal tide in section 3.3.

Minor issues
Title: Gravity > gravity   Done
Abstract, L 17: dynamical ! dynamical factor   Done
Page 1, L 25: insert "the" before behavior   Done
Section 1.2, 1st paragraph: Forbes et al analyzed the SW2 in the exosphere, please describe that more clearly.
   "in the upper thermosphere" was replaced by "in the exobase (400-500 km)".

Page 3, model description: the gravity wave propagation strongly depends on the phase speed spectrum. Are there observational constraints for the selected spectrum?

The following sentence was added in the third paragraph of section 2.
The GW spectrum adopted in this study and its relation to the observation have been discussed in detail in the work by Yiğit et al. (2008) and Yiğit et al. (2009).

Page 6, l 15/16: within the one-hour period. This indicates a change in time, better: at different longitudes
"one-hour" is typo. "one-hour" was replaced by "one-day".

L18: shows A height-longitude   Done

L24 THE Yigit   Done

L24 mechanism > mechanisms   Done

Page 7, L2: the diurnal variation is also significant at midlatitudes

 "significant" was replaced by "the largest".

L14/15: also in the mesosphere. Please describe in more detail

   The differences of the GW drag in the mesosphere were discussed in section 3.4.

Page 8, L8/9 Recent studies: : : please provide a reference

Papers by (Miyoshi and Fujiwara (2003, 2008) and Akmaev et al. (2008) are added.

Page 9, l 26: have > has   Done

Page 10, reference Gavrilov et al.: nonlineareffects > nonlinear effects   Done

Caption Fig. 5: : : :except for THE zonal: : Done