

Interactive comment on “The Climatology of Brewer-Dobson Circulation and the Contribution of Gravity Waves” by Kaoru Sato and Soichiro Hirano

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We greatly appreciate Dr. Šácha's invaluable comments and suggestion to confirm that $\overline{w^*}$ integration nears zero.

We calculated a latitudinal average of $\overline{w^*}$ at each pressure level and confirmed that it is generally less than a few percent of the $\overline{w^*}$ maximum at each level (Figure 1). So, we do not think that the uncertainty in $\overline{w^*}$ explains much the difference in the stream functions between the two methods using $\overline{w^*}$ and using $\overline{v^*}$. We appreciate the important information that the inequality still remains when using the model reaching up to 150 km. It is naturally expected that the mesospheric gravity wave forcing is

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responsible to the structural difference but it is interesting that it is not all.

We will add descriptions and discussion regarding the compensation in the revised manuscript, if we have a chance of revision. Thanks are also for indicating the typo regarding the boundary condition. The correct one is $\overline{\Psi}(\phi, z) = 0$ at the pole.

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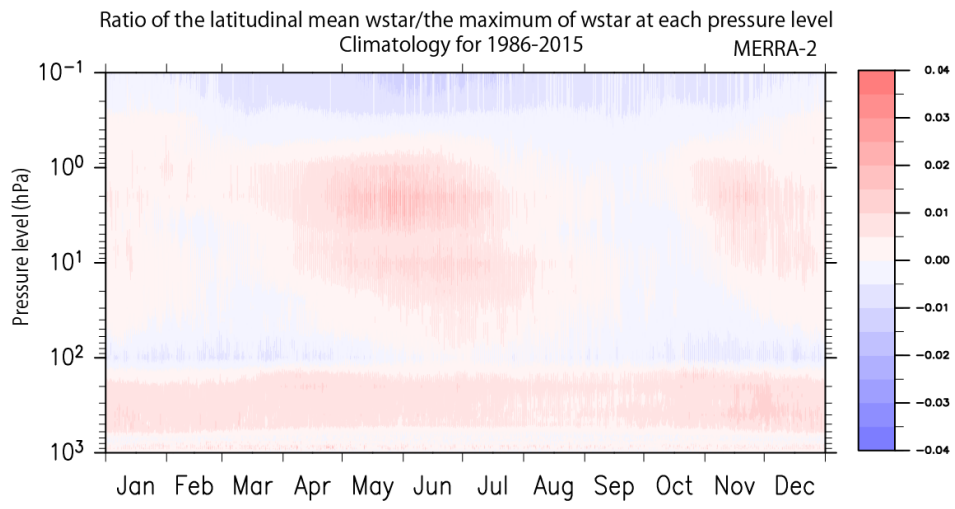


Fig. 1.