

Interactive comment on “Stratospheric ozone and QBO interaction with the tropical troposphere on intraseasonal and interannual time-scales: a wave interaction perspective” by Breno Raphaldini et al.

Breno Raphaldini et al.

brenorfs@gmail.com

Received and published: 24 September 2020

Dear Dr. Paul Pukite, we thank you for your interest in our work. We acknowledge that common mode forcing of tidal nature plays a major factor in the dynamics of waves. Here we have included the analysis of ozone for this reason, since we believe that this is an important forcing term for stratospheric disturbances that acted on the timescales relevant for our analysis. Tidal forcing of gravitational nature plays a major role in forcing gravity waves at the diurnal-hourly timescales, however we do not think they are relevant to the analysis presented here. For a recent reference that explores this issues please check (Sakazaki, T., & Hamilton, K. (2020). An Array of Ringing Global

Printer-friendly version

Discussion paper



Free Modes Discovered in Tropical Surface Pressure Data. *Journal of the Atmospheric Sciences*, 77(7), 2519-2539.). You have also to keep in mind that we are only considering the causality between processes at the same time scale, if we were considering inter scales connection, this probably would be and important factor, see (Raupp, C. F., & Silva Dias, P. L. (2009). Resonant wave interactions in the presence of a diurnally varying heat source. *Journal of the atmospheric sciences*, 66(10), 3165-3183.) for the role of the diurnal cycle on the dynamics of the MJO.

Interactive comment on *Earth Syst. Dynam. Discuss.*, <https://doi.org/10.5194/esd-2020-45>, 2020.

[Printer-friendly version](#)

[Discussion paper](#)

