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Comment

Interactive comment on “Solar response in tropical stratospheric ozone: a 3-D chemical transport model study using ERA reanalyses” by S. Dhomse et al.

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Reply to interactive comment on “Solar response in tropical stratospheric ozone: a 3-D chemical transport model study using ERA reanalyses” by J. McCormack

The authors note that nearly all 2-D models show only one broad peak in the tropical stratospheric ozone response to the 11-year cycle solar UV. One exception is the 2-D modeling study of McCormack et al. (JGR, 2007), which produced a double-peak solar cycle response in stratospheric ozone in multi-decadal simulations that included realistic semi-annual and quasi-biennial oscillations in tropical stratospheric winds. It should be noted that these oscillations were not imposed, but were generated internally

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by the model dynamics. The results of this study indicated that the lower stratospheric ozone response was likely produced by quasi-decadal variability in transport related to solar-cycle changes in planetary wave forcing of the winter extratropical circulation.

We thank Dr. McCormack for drawing our attention to this 2-D model study. In the revised manuscript we have added the reference and the corresponding sentence is reworded as "With an exception of McCormack et al (2007), most of the 2-D models .."

Interactive comment on Atmos. Chem. Phys. Discuss., 11, 13975, 2011.

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