

Review of “Representation of solar tides in the stratosphere and lower mesosphere in state-of-the-art reanalyses and in satellite observations” (revised)

by T. Sakazaki et al.

Recommendation: Accept after minor revision

The authors responded satisfactorily to most of my initial comments. The more detailed explanation of how the migrating and non-migrating tides are extracted from satellite observations and reanalysis output is particularly welcome.

However, there is one question, about the interpretation of the phase behavior displayed in Figure 12, that was not addressed in the revised paper (see below). It would be helpful to have some clarification of this issue.

Specific Comments (page, line):

(11, 28) “Westward (eastward) tilting waves”: The statement in the text appears to imply that, somehow, westward tilting waves dominate the wave field in the western hemisphere, while eastward-tilting waves are dominant in the eastern hemisphere. As noted in my original review, this is puzzling and calls for some explanation because, if these waves are being forced by the daily cycle of convection over land, both westward and eastward waves should be excited at each center of convection. Perhaps the appearance of predominant westward (eastward) tilt in the western (eastern) hemisphere is simply an artifact of the superposition of wave trains emanating from each center of convection? In any case, some explanatory remark about how this pattern might arise would be welcome here.