

Review of the revised manuscript entitled

“On the variability of the semidiurnal solar and lunar tides of the equatorial electrojet during sudden stratospheric warmings”.

By Tarique A. Siddiqui et al.

Submitted to Annales Geophysicae [MS angeo-2018-80].

In this revised version of the manuscript the authors have addressed all the comments and suggestions made by this reviewer. I appreciate that the authors have included in the discussion the SW2 and M2 tides obtained from the simulated winds. I think this helps to enrich the analysis and strengthen the main conclusions of their work. As in the case of the previous version, the manuscript is well written and clearly structured. I recommend its publication in Annales Geophysicae after a few minor corrections; without an additional review.

Minor comments

The page and line references are with respect to tracked changes document.

Page 2

Line 21: please change to “... on reaching the dynamo region heights **they** drive...”

Line 35: please change to “... and **in** the EEJ, and linked **these** observations to the occurrence of an SSW **event**.”

Page 3

Line 5: please change to “... also revealed the enhancement of **the** solar semidiurnal...”

Line 11: please change to “... The cause of **the** M2 amplification is proposed to be **due to**...”

Page 5

Line 21: please change to "... and lunar semidiurnal tides using a..."

Line 22: please remove "then" after "window"

Page 7

Line 33: please change "weakens" to "weaken". Besides, from figure 4a, it looks that the EEJ amplitudes start weakening before January 20.

Page 8

Line 7: please change to "... main phase of the SSW..."

Line 28: please change "new moon" to "full moon".

Page 9

Lines 1-3: It is not clear that the reduced EEJ amplitudes on either side of the enhanced semidiurnal pattern are separated by similar time intervals. Maybe the authors could mark this in the figure (Fig. 5a) so it is clear for the reader?

Line 9: please change to "... enhancements ~~s~~ also startss..."

Line 26: please change "variability" to "variabilities".

Equation 5: it seems that there is a typo in the second summation of the second term. Shouldn't "s" go from -3 to 3 instead of n-3 to n+3?

Page 10

Line 24: please change to "... in neutral temperature in the SH does not..."

Line 25-26: please change to "... In the NH, ~~also~~ a clear pattern of phase change is not evident either at the latitudes..."

Line 27: please change to "... zonal wind **does not** show any major phase change due to **the SSWs...**"

Line 34: please change to "... variations **do** not exactly..."

Page 11

Line 17: please change to "... occurs at **slightly** higher..." I'd say it is not just slightly.

Line 35: please use full stop after "same period".

Page 12

Line 10: please change to "... in neutral temperature **are** presented..."

Lines 17-18: please change to "... in neutral temperature, but the amplification of these tides **does** not occur..."

Lines 18-20: the decrease (of ~ 1 hour) of the phase of SW2 in temperature is not clear for mid-latitudes of the SH. I would rephrase this.

Page 14

Line 11: please change "tide wave" to "tide-wave".

Line 17: please change to "... variability of **the** EEJ..."

Line 30: please change to "at ~ 120 km and **that of** the EEJ..."

One final comment. There is no explicit mention of the model simulations in the conclusions. I think this should be explicitly mentioned, and perhaps also include that different model simulations have been used.