

Ann. Geophys. Discuss., referee comment RC3 https://doi.org/10.5194/angeo-2021-38-RC3, 2021 © Author(s) 2021. This work is distributed under the Creative Commons Attribution 4.0 License.

## Comment on angeo-2021-38

Anonymous Referee #3

Referee comment on "Influence of the semidiurnal lunar tide in the equatorial plasma bubble zonal drifts over Brazil" by Igo Paulino et al., Ann. Geophys. Discuss., https://doi.org/10.5194/angeo-2021-38-RC3, 2021

Review report for "Influence of the semidiurnal lunar tide on the equatorial plasma bubble zonal drifts over Brazil" by Paulino et al (angeo-2021-38)

The authors adopted all-sky airglow imager to investigate the zonal drift of EPB and find interesting semidiurnal lunar tide (M2) signatures. The manuscript appears to be a short research letter that only the observational results are provided with inadequate interpretations and discussions.

Major comments:

The authors' discussion on the solar cycle effects is extremely inadequate, a simple 'must be further investigated' is not an excuse. At least, the author needs to explain why the question cannot be solved in this study? What kind of data might need to resolve the question?

Minor comments:

Lines 4-5: Confused with 'the M2 contributes 5.6% to the variability of the EPB zonal drifts'. How the contribution level is determined?

Line 33: Be specific about 'nighttime' and 'evening'.

Lines 36: Two 'as'.

Line 93: What is the meaning of `combination'? Two independent aspects or the combined two effects?

Line 106: Rewrite 'Additionally, they showed that the M2 is larger in this region as compared to the geomagnetic contribution from the space perturbations'

Lines 105-107: Two 'Additionally'.

Lines 119-120: Rewrite 'as in the temperature (Paulino et al., 2013) as in the zonal wind'.

Lines 128-134: Rewrite 'Forbes...'. And summary the main idea of this paragraph.

Lines 128-129: What do mean 'differences near the equator?