

This paper investigated the distribution of bubbles as a function of longitude, latitude, altitude, local time, and year (solar cycle) using the FormoSat-3/COSMIC radio occultation data acquired in 2008-2016. Their results show an agreement with the occurrence climatology of bubbles derived by other observations.

On the scientific aspect, this paper does not deliver any new findings regarding bubbles; the behavior of bubbles (dependence on the geographic and geophysical parameters) is well established, even if this paper does not report. However, the paper demonstrates that GPS RO signal can be a good proxy for the detection of bubbles. The results are acceptable, but writing is so bad, so I recommend resubmission of the paper.

For most sentences, I could not progress to the next sentence without pointing out a problem. Below are some examples.

Title

May change “Occurrence climatology of equatorial plasma bubbles derived using the FormoSat-3/COSMIC GPS radio occultation data”

Abstract

The whole sentences should be revised.

Line 2-3: The words “emerging”, “prominent” are not necessary.

Line 4-5: “For investigating the plasma bubbles, a nine-year (2008-2016) long time series of signal-to-noise ratio data are used from the vertical GPS radio occultation profiles.” This is bad structure. I would write “The occurrence climatology of bubbles is derived using the vertical GPS radio occultation data in 2008-2016 by the FormoSat-3/COSMIC mission.”

Line 8-9: “Dependence on the solar cycle as well as distinctive seasonal variation is observed when analyzed for different years.” -> The distribution of bubbles shows the dependence on season, longitude, and solar cycle”

The words “depreciated” and “personifies” do not sound good expressions.

Sections 1-3

There are many awkward expressions. Too much work to point out all of them

Conclusions

Page 10 Line 28: “ a nine-year comprehensive study of equatorial plasma bubbles ...” It sounds that the authors have studied bubbles for nine years.

Page 10 Line 32: There is no “striking” finding of this study. The solar cycle dependence of the bubble activity is already very well known, and this study just has identified the known phenomenon using the RO data.

Page 10 Line 33-Page 11 Line 1: The concentration of bubbles near the magnetic equator is already well known fact, and it is not an intriguing characteristic at all.

Page 11 Line 1: “The rapid depletion of E-layer post sunset cause...” -> The rapid plasma loss in the E layer after sunset causes ...

Page 12 Line 1: “The study reveals the influence of solar cycle, which facilitates the contraction and expansion of plasma bubbles across the complete altitude range.” Does the solar cycle contract or expand bubbles? What does this mean?