**First Reviewer:**

Reviewer #1: Comments on the manuscript AGPH-D-21-00359  
Annual and Semi-Annual Variations of TEC over Nepal During the Period of 2007 to 2017 and Possible Drivers by Basu Dev Ghimire, Bibek Gautam, Narayan P. Chapagain, Karan Bhatta  
The behavior of the total electron content TEC has great variability, including depending on the point of observation, therefore, the identification of local features of the TEC behavior is of interest. This work is devoted to the identification of annual and semi-annual variations in TEC over Nepal for the 11-year period 2007-2017 using wavelet techniques. The data are divided into two arrays: daytime and nighttime values, and interrelationship between periodicities in ionospheric TEC data and geomagnetic indices was revealed for these arrays. The paper corresponds to the topics of the journal and can be recommended for publication after changes in accordance with the comments.

*We thank the reviewers for the constructive comments and take into account all the comments as followings:*

**Main Comments:**

1. It is not clear why special emphasis is placed on the periodicity of the D region TEC, although this region makes a very small contribution to the TEC and disappears altogether at night (see lines 156-157).

***Answer:*** *- In this paragraph, we are presenting the reason behind choosing various solar parameters giving an example of how Lyman alpha relates to the (dis-)appearance of the D-region of the Ionosphere. As per the comment, we have now revised the section to limit the emphasis on Lyman alpha and make it explicit that the reference to D-layer is just an example.*

*It can be found in lines 146-149 in the in the revised document (marked in red color).*

1. It is necessary to arrange the table of contents of section 3. The title of section 3.1 indicates the results for geomagnetic indices, but they are given in section 3.2. Subsection

***Answer: -*** *There was one too many section hierarchy which has now been removed as per your suggestion. And the references to (sub-) sections have been fixed accordingly in the paragraph. This can be found in lines 209-211 and 254, marked with red color.*

**Minor Comments:**

1. Line 8: Is the affiliation for Karan Bhatta (Kathamndu) correct?

***Answer: -*** *This was a typographical error and has now been corrected to “Kathmandu*”. In line 8, marked as red color.

1. Lines 53-55: they repeat lines 47-52.

***Answer: -*** *The redundant lines (in abstract) section have been redacted.*

1. Line 110: replace the ambiguity number with electron density.

***Answer: -*** *It has been corrected as suggested in line 107 (marked in red.)*

1. Lines 123-124: delete the phrase associated with the equatorial ionospheric anomaly (EIA) since the paper does not provide an analysis for it, moreover, it is more of a daytime phenomenon than a nighttime one.

***Answer:-*** *Thank you reviewer for addressing these points on the manuscript. As per the suggestion, the references to EIA have been removed.*

1. Line 274: replace analzsed with analyzed.

***Answer:-*** *This has been corrected.*

1. The references of papers by Chen et al., 2016 (line 106) and Kanaka et al., 2019 (line 400) are missing in References.

***Answer:-*** *We have revised the citation in these lines. Citation of* Chen et al., 2016 *has been replaced by* Liu et al., 1996 *and that of* Kanaka et al., 2019 *by* Reddybattula et al., 2019*. Also references of corresponding citation are added. The changes are reflected in the lines 476-478 and 489-491 (marked in red.) We think the newly added citations are better in the context.*

**Additional Changes:**

1. In line 7, “Nepal” has been added to the affiliation.

2. In line 40, Order of citation has been corrected.

3. In lines 42, 43, grammatical error has been corrected.

4. In lines 47-52, Two sentences has been reordered.

5. In line 68, the sentence has been rephrased.

6. Few entries have been added to the reference section, all of which are marked in red (lines 477-479,

490-492, 522-523, 538-540, 546, 577-579).

7. Minor grammatical revisions have been done in several places (eg. 137, 161, 250, 294).