Dear Reviewer:

Thanks very much for your comments. These comments were all valuable and very helpful for revising and improving our paper. In the revised manuscript, we have carefully revised it. The following is a point-to-point response to the comments.

Thank you very much!

* Leave a space after a semicolon (check list of references between brackets). Check all the paper please.

**Response:**
* Line 42: "Since the ionosphere is influenced by solar activity, its system state and variation are complicated, but it is generally believed that the active level of the ionosphere is related to solar activity". I would delete the last part of this sentence, because it is not just a matter of "belief". The ionosphere is affected by solar activity. So it should be "Since the ionosphere is influenced by solar activity, its system state and variation are complicated."

**Response:**
* Line 45: " time(Tariq" there should be a space after "time". That is, it should be " time (Tariq"
Check please in other parts. There should be a space between a word and a bracket when you are opening it, that is when you use "(").

**Response:**
* Line 79: " (GNSS tracking station)," should end in a point. That is " (GNSS tracking station)."

**Response:**
* Line 87: "In this paper, the grid TEC difference is proposed aims to analyze the TEC variation characteristics within the grid." Something is wrong in this sentence. Maybe it should be "In this paper, the grid TEC difference is proposed to analyze the TEC variation characteristics within the grid." Please, check.

**Response:**

We appreciate for your warm work earnestly, and hope that the correction will meet with approval. Once again, thank you very much for your comments and suggestions.