

Response to Reviewers

We thank the reviewers for their comments and the time spent preparing them.

Reviewer 1

Major comments:

Thanks for your responses. However, I would like to see the positive responses to my comments in the last two version. Moreover, please provide directect proof(s) to support your idea and purpose in the abstract. If the proof are at other places of the text, please provide them clearly in the responses or the line numbers in the text.

Beside the unresolved comments in the last two versions, a new comments is that the title may be confined in the stratosphere since the temperature observed by GNSS-RO cannot cover the mesosphere and lower thermosphere where SABER covered.

We have completely rewritten the abstract and title of the manuscript, as requested by Reviewer 1 and subsequently clarified in writing with the Editor. Additionally, we have made the main points of the study clearer in the latest version as follow:

1. The title is now confined to the stratosphere only.
2. We have highlighted the importance of the study and its critical timing since SABER will no longer be running after 2025 and there is no planned replacement (L7-10).
3. We have also referred to the main differences between SABER and GNSS-RO which make their results vary and described how to tackle these differences in order to get as close agreement as possible (L11-12).
4. We have proposed using a previously demonstrated method to compare the two measurements as closely as possible by using synthetic data from a high-resolution global model. This method has been tested in a published study and showed a very high accuracy in sampling the satellite data using model data (Wright & Hindley 2018). The details of this method and the results are shown in section 5.
5. The main result of the study is clarified in L17 -19.
6. The main question of the study is illustrated and answered clearly by adding Figure 12 after the reviewer suggestion in round 1.