

Dear the editor and reviewers,

We thank for carefully reading our manuscript and thoughtful comments. We modified the manuscript as the reviewer suggested. We have uploaded (1) author's response, (2) two PDF files with and without tracked changes, and (3) manuscript in MS-word with track changes.

This paper describes in detail the performance and operation of the GOSAT TANSOFTS instrument over the past 6 years. This paper is extremely useful for anyone intending to use the GOSAT measurement spectra and I would recommend it for publication. As it has already passed through one round of reviews I'm largely happy with the paper as is and only have a few minor points which the authors may want to address. It would seem that this is the ideal publication to include more context on how the GOSAT data is being used by the international GHG community. I'd recommend a section in the introduction that covers current work in more detail, highlighting the use of GOSAT data in the scientific literature. This need not be extensive but it would provide a logical starting point for information should people wish to begin using the data themselves.

We have highlighted current work by adding one sub-section in the introduction added several references.

The remainder of my comments are largely grammatical/typographical changes:

<Technical corrections>

The formatting of "X_{CO2}" and "X_{CH4}" seems inconsistent with the rest of the text.

We have formatted consistently.

<Technical corrections>

We appreciated the reviewer's kind suggestions.

P2L16: clarify CO₂ and CH₄, sensitive to the surface, etc (i.e. there are TIR instruments capable of these measurements and there are other GHGs)

We have clarified the sentence as follows.

"GOSAT was the only instrument that could provide CO₂ and CH₄ column amounts, which are sensitive to the surface from space."

P2L31: GHG -> GHGs

Corrected.

P3L13: with aim-> with the aim

Corrected.

P5L5: large dark level -> large dark level values?

Corrected.

P7L27: “Fig. 3” formatting seems different to rest

We replaced the Fig. 3 with the proper format one.

P11L24: “position is largely shift” -> (Grammar) a shift? shifted?

Corrected.

P13L15: Typo – NICE/NIES –(also please provide link to GUIG in references)

Corrected. We provided the link in references.

P13L18: is corrected dividing -> is corrected by dividing

Corrected.

P13L20: instead of boxcar -> instead of a boxcar

Corrected.

P21L11: acquires -> acquired

Corrected.

P22L4: has higher possibility of nonlinearity -> has a higher possibility of nonlinearity

Corrected.

In addition to the above corrections, we have clarified the description of the TIR non-linearity correction. We have also added a few minor grammatical corrections.