

Dear reviewer

We thank you for your time and valuable comments. Please find our replies displayed in blue color below each comment.

Kind regards

Mareike Ließ

Anonymous Referee #2

This study addressed a very important issue in soil spectroscopy field. The data uncertainty is a major factor to affect calibration process. I have some general comments on this study:

1. In the introduction part, it needs more literature reviews on the data uncertainty effect on the modelling process, to enhance awareness of this issue, especially soil data uncertainty from lab chemistry analysis. Because so far not many people even noticed about it, it has been often ignored.
2. For the experimental design of this study, i suggest author should focus on effect of data uncertainty from lab chemistry analysis, how this uncertainty can effect calibration and validation. Because this is the most important part of the issue.

Reply: We have included more references on uncertainty and emphasized the various sources of uncertainty and their impact on model performance.

Consequently, authors only mentioned about this effect a bit in results and discussion part. It would be a very important study in soil spectroscopy community if author could deeply discuss this effect. Because most research project does not allow all soil samples to measure 3 replicate, due to budget limitation. Therefore, the dataset in this study is a treasure.

3. I have attached a small but very good discussion note from NIR news, hope authors can get some ideas about this issue (this note is not reviewer's publication).

Reply: Thank you. We have adapted the introduction, results and conclusion section and included a reference to the discussion news.