

Responses to the specific comments

1. Abstract lines 25-26. Rewrite as “GNOS bending angles and short-range ECMWF forecast bending angles: : :..”

A: Done

2. Page 2 line 2-radio occultation not capitalized.

A: Done

3. Page 3 line 11-suggest deleting “kinds of”.

A: Done

4. Page 3 line 23-poor data were filtered out...(data plural)

A: Done

5. Page 4 line 5-suggest deleting “in this work”

A: Done

6. Page 4 line 7- are now assimilated...

A: Done

7. Page 4 line 24-affected not effected.

A: Done

8. Page 5 line 1-suggest deleting “the” before complicated Line 6-...not as good as that of L1 Line 7-Fig. 2 is difficult to read. Labels are too small and bars are too large, making figure out of proportion. Also, the abscissa and ordinate need labels. Line 10-can you provide references to say what is reasonable and what is not? Figs. 3 and 4-labels and legends need to be made larger.

A: Done. The figures have been replotted.

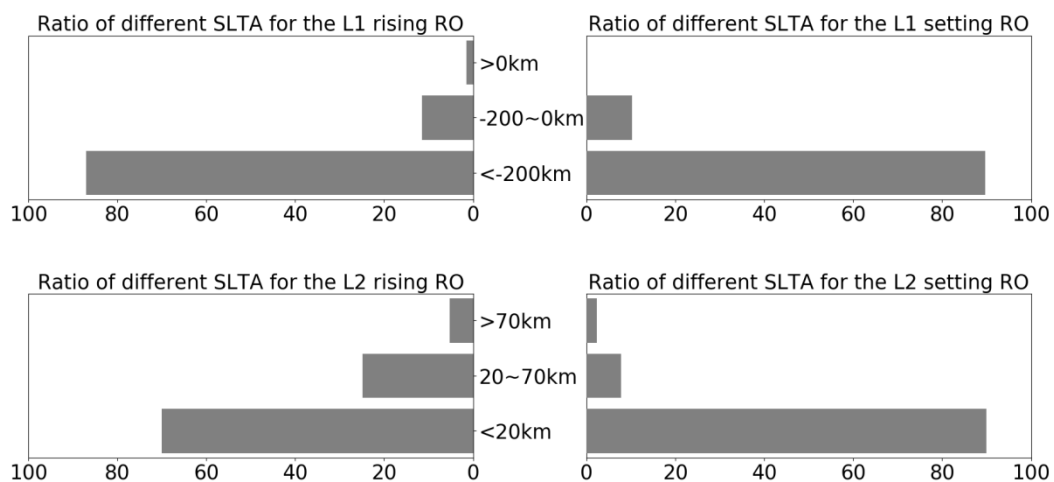


Figure 2. Ratio of different SLTA of the L1 C/A and L2 P for the rising and setting occultations, statistics result is from 28th Jan to 2nd Feb. 2017.

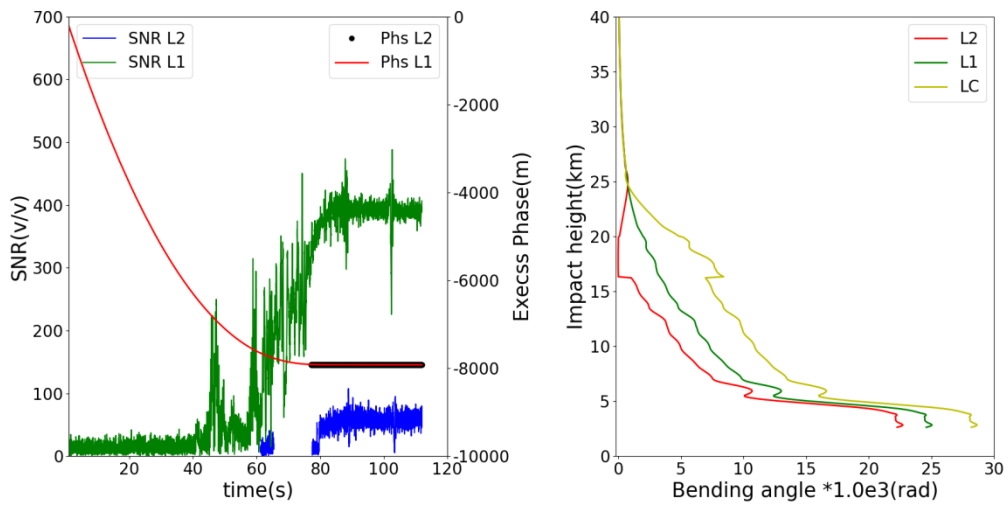


Figure 3.

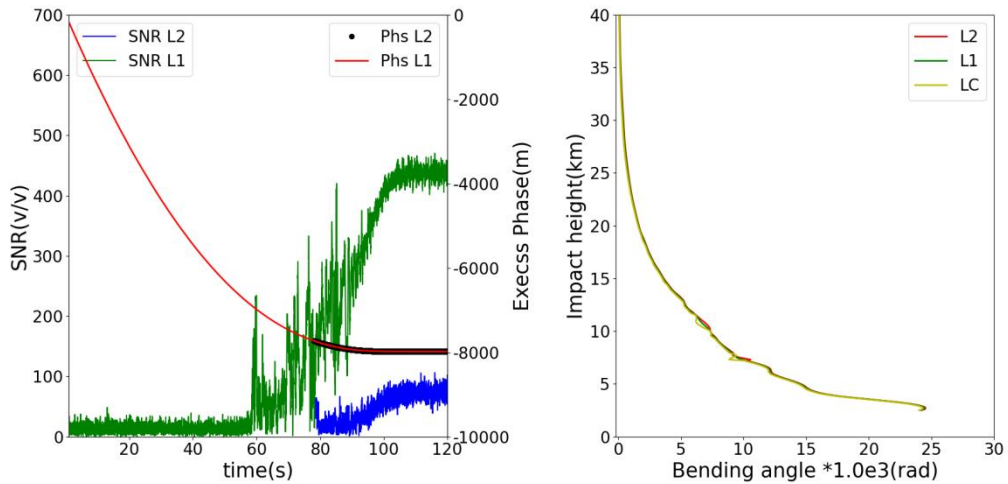


Figure 4.

9. Page 6 line 7-Is Culverwell and Healy really unpublished if it is a ROM SAF report? I suggest deleting (unpublished).

A: This work is based on the work of Culverwell and Healy, which is an important source. Although it hasn't been published, we'd like to refer it as an informal report.

10. Figures 5 and 6-I know it is arbitrary, but it might be better to put the "before" panel on the left and the "after" panel on the right side of the figures. Also the labels and legends should be larger.

A: Done.

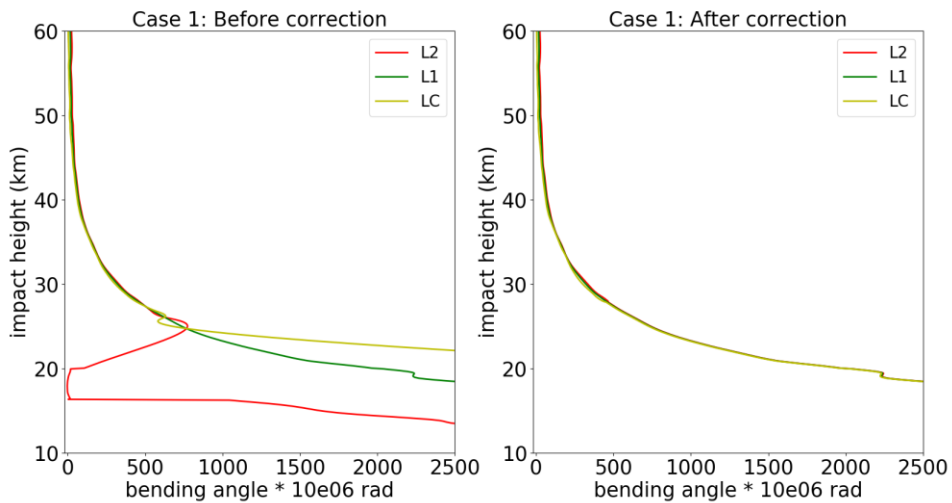


Figure 5. Case1: the bending angle of L2 (red), L1 (green) and LC (yellow) before (right) and after (left) correction.

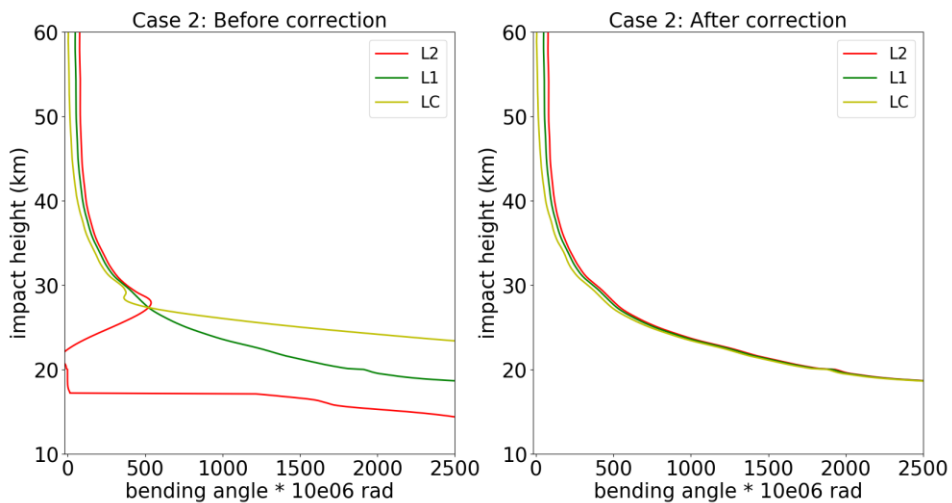


Figure 6. The same as Figure 5 but for Case 2.

11. Page 6 line 13: no period after Zeng.

A: Done.

12. Page 7 line 14-reword to “L2 bending angles are very different from the L1 bending angles before correction.” Line 16-reword to “.both the L1 and LC bending angles.”

A: Done.

13. The labels in Figs. 7 and 8 are a good size. Use this size in all the figures.

A: Done.

14. Fig. 9-labels should be larger.

A: Done.

15. Page 9 line 4-“noise_estimate” is sort of a ‘clunky’ name. Can you come up with a symbol or shorter name? Also, the left side of (4.1) is not quite the same as the name in the text. Line 26-additional rather than extra.

A: Done. We will replace the “noise_estimate” as θ_α .

16. Page 10 lines 22-27-this discussion is confusing. It sounds like the %of “bad” profiles increases from 9.7% to 11.1% after QC. Please clarify and rewrite this paragraph.

A: Combining other reviewers’ comments, this part is not necessary and confusing; we decide to delete this part.

17. Page 12 line 9-when the L2 signal... Line 13-see comment #9 above Line 26-...by comparing with the background bending angles computed form the operational ECMWF forecasts.

A: Done.

18. Page 13 line 10-reword to “We express our appreciation to...”

A: Done.