

Interactive comment on “Improved pointing information for SCIAMACHY from in-flight measurements of the viewing directions towards sun and moon” by Klaus Bramstedt et al.

Anonymous Referee #1

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The manuscript describes a new method to assess the mispointing of SCIAMACHY on Envisat and proposes an improved correction scheme for future calibration. The paper is well written, detailed enough for non-experts to follow, but avoiding unnecessary details. The method explained is convincing, and the results seem reasonable. I would like to congratulate the authors. It was a pleasure to read this paper.

I have only a few very minor comments, some of them even on the pure technical side. They are listed below. I recommend the paper for rapid publication after correction of these minor issues.

Specific/technical comments:

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One remark concerning all the manuscript: The authors make quite extensive use of abbreviations like CS, ESM, ASM, PMD, SFD, IC etc. As far as I have checked, all these abbreviations are properly explained at their first use. Nevertheless, it would be easier for the reader if somewhat less extensive use of abbreviations would be made. This is just a suggestion.

Abstract: At the end of the abstract, some quantitative information on the amount of mispointing identified and the correction to be applied should be added; for the non-expert reader, it would also be helpful to translate these numbers into the tangent height correction and the remaining tangent height uncertainty.

Page 2, line 48/49: “observed” appears twice in this sentence, and one of them should be removed.

Page 6, line 39: remove one “over”

Page 11, line 38: “Starting points”: do you mean “initial guess”?

Page 13, Fig. 10: there is only a label “2015” in the figure, but in the caption a label “2016” is mentioned. One of both seems to need correction.

Page 12/13, section 5.1 and Conclusions: For the non-expert reader it would be of interest how the new corrections translate into tangent height corrections, and what the remaining tangent height uncertainties are. It would be very valuable to add this information.

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