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Comment

## ***Interactive comment on “Fast reconstruction of hyperspectral radiative transfer simulations by using small spectral subsets: application to the oxygen A band” by A. Hollstein and R. Lindstrot***

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Reviewer #2 had difficulties submitting his review for this manuscript, probably because of a glitch in the system and is currently unable to re-submit. However, I have communicated with him by email, and he let me know that

"my suggestion was to publish the paper (which I believe is well written with good results) after making some minor changes that I suggested in the review".

I concur with his assessment, and entered this into the system. Since his minor changes are lost, I decided to read the manuscript again by myself. Personally, I think

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that the manuscript is excellent in all categories (scientific significance and quality as well as presentation quality), but I kept the reviewer's recommendations in evaluating the manuscript. Please see below my short review (all minor comments), based on the currently uploaded version:

Comments on content:

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p10, l18: What is the meaning of the subscript "2" after the norm sign? If the "l2 condition" is not explained earlier, can you explain it here?

p6,l5: "variation of the atmospheric state" - suggest to replace with "parameter space" (since "state vector variability" is then used in the next sentence).

Figure 4: I believe the x-axis is not correct (values range from 0.05-0.95 rather than 0.0-1.0)

p8,l11: Consider replacing "ansatz" with "approach"

Comments on language:

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In general, there is a lack of hyphenation throughout the manuscript (copy-editing may catch some of this, but the authors are encouraged to search for the examples given below and correct them):

- \* Oxygen A-Band
- \* semi-orthogonal
- \* channel-based
- \* post-processing
- \* high-level

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\* pseudo-inverse

Further language comments:

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p2,l7, delete comma after "region" and "of"

p2,l10: Please correct word order

p5,l8: "decline" is the wrong word – replace with "decrease" or similar.

p6,l9: "replace "the state vector" with "it"

Figure 1: Revise caption: "with" → "by"

p12,l11: "order of magnitude" is the correct term

p12,l11: delete "readily" (or replace with "easily") because the combination with "possible" does not work.

p12,l24: delete comma

p13,l3: add comma before "and" (or replace "and" with semicolon)

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Interactive comment on Atmos. Meas. Tech. Discuss., 6, 8339, 2013.

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