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Atmospheric Measurement Techniques Discussions

Interactive comment on "The added value of a visible channel to a geostationary thermal infrared instrument to monitor ozone for air quality" *by* E. Hache et al.

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We thank the editor Prof. Hamilton for his positive and helpful review. Below we address the points raised by the editor Prof. Hamilton.

P1653 line 25 "...incorporated into this method..." rather than "to this method".

- **We have corrected this as suggested.**

P1657 line 2 remove line break.

- **We removed it.**

P1657 line 8 This sentence is unclear and possibly ambiguous, the width of the micro-window is (I think) intended to be 130 nm, but to say that the micro-window is "in this range" is to imply that it is actually narrower and is located within the 130 nm wide window.

- **The width of the micro-window is 130 nm. To avoid ambiguity we removed "in the range".**

P 1658 line19 delete "the".

- **We deleted it.**

P1659 line 9 (and others) The definition of sensitivity is not given explicitly in the paper. Without this definition the paper is not sufficiently self-contained. Apparently this definition is in the reference to Rodgers, but this is to a book, not a journal article, and thus not so readily available to the reader.

- **We added the definition of sensitivity and averaging kernels, as defined by Rodgers (2000), in the text P 1658 line 19 as follows : "This sensitivity is represented by averaging kernels A (Rodgers, 2000) defined by $A = [K^T S_y^{-1} K + S_a^{-1}]^{-1} K^T S_y^{-1} K$. The averaging kernels can be regarded as smoothing functions of the state vector x. They represent the fraction of the retrieval that comes from the data rather than the a priori, i.e., the sensitivity of the retrieval to the measurement. Averaging kernels tend to be approximately unity at levels where the retrieval is accurate".**

Interactive comment on Atmos. Meas. Tech. Discuss., 7, 1645, 2014.