

Interactive comment on “Consistency and quality assessment of the Metop-A/IASI and Metop-B/IASI operational trace gas products (O₃, CO, N₂O, CH₄ and CO₂) in the Subtropical North Atlantic” by O. E. García et al.

Anonymous Referee #3

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The authors describe a consistency and quality assessment of trace gas products derived from METOP-A/B IASI measurements. The manuscript is well written and presents an important part of the quality description for the (pre-) operational trace gas products from IASI. I recommend publication in AMT after some minor revisions outlined in the comments below.

Comments:

C5512

p. 13732 l.1-3: Please revise this sentence, which does not seem to make any grammatical sense. I assume that either the word "be" or the word "show" have not been deleted from a Prior Version of the manuscript.

p. 13732 l.13: I do not agree that 12km is "excellent" horizontal Resolution, please replace by "good" or something else.

p. 13733 l.14: Please replace "measured", as the IASI measurements only provide radiation intensity. I would rather suggest something like "...retrieved operationally from IASI measurements..."

p. 13733 l.17: Please specify "infrared solar spectra".

p. 13737 l.3-11: It might be worth to already here pointing out that Izana episodically observes outbreaks of desert dust from the Sahara.

p. 13739 l. 8-16: I am missing an acknowledgement of the possibility of errors not included in the model, such as the ignorance of desert dust or thin cirrus clouds in the fields-of-view. Is that by any means represented in the Rodgers formalism? Otherwise the error Budget might be significantly underestimated.

p. 13739 l.17-23: I am missing a short outline of cloud Screening strategy (in both, the FTS and the IASI descriptions).

p. 13741 l.1-4: With this box size I would say it is absolutely necessary to at least discuss expected the impact of desert dust on the IASI retrievals. Even if the Izana observatory may be situated above the dust, the IASI observations including the surrounding ocean will clearly be affected in the case of an outbreak from the Sahara. Many Researchers have shown significant impacts on the radiative field in the spectral domain used here.

p. 13744 l.20-27: As the observations from Metop-A and Metop-B have shown to be consistent, why do the authors not include Metop-B in this Analysis in order to increase the sample size?

C5513

p. 13745 l.9-11: Is the amount of tropospheric ozone found around Izana (thus in rather pristine conditions) significant?

p. 13746 l. 23-29: There is another AERONET Station, La_Laguna, Close to Izana. That one is operated at much lower altitude and consequently captures more of the episodic low level desert dust outbreaks and aerosol events. It is a better representation of the Aerosol loading over the ocean surrounding the islands than Izana. It might be worth to at least discuss this Topic.

Interactive comment on Atmos. Meas. Tech. Discuss., 8, 13729, 2015.