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Interactive comment on "IASI spectral radiance performance validation: case study assessment from the JAIVEx field campaign" *by* A. M. Larar et al.

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Review of the paper

IASI spectral radiance performance validation: case study assessment from the JAIVEx field campaign

by A. M. Larar, W. L. Smith, D. K. Zhou, X. Liu, H. Revercomb, J. P. Taylor, S. M. Newman, and P. Schlussel

This manuscript was submitted as one of the paper for the special issue dedicated to The IASI instrument onboard the METOP satellite: first results

This paper focuses on validation of the IASI radiance spectra and reports on a case study analysis performed in the framework of the Joint Airborne IASI Validation Experiment (JAIVEx) field campaign. It relies on aircraft observations from NAST-I and S-HIS, as well as satellite measurements from AIRS/AQUA.

Validation of satellite observations is mandatory before the data can be exploited for further scientific studies and/or operational uses. Validation of Level 1 data (the radiance spectra) is a prerequisite before any further analysis. I found the paper well written and useful, and I recommend its publication as part of the IASI special issue.

Apart from the comments I made at the ACPD submission stage, I only have some minor remarks that could help to improve the clarity of the manuscript:

- I found some of the plots are not easy to understand (see earlier comments, eg I found Fig 16 quite unreadable) ;

- Definition of spectral resolution is not rigorous. Page 6 : the spectral resolution quoted here is .25 cm-1 for the NAST-I interferometer. Apozided, or unapodized? 1/OPD or HWHM? Page 7: For IASI a value of 0.25 cm-1 is quoted for spectral sampling. The spectral resolution is 0.5, Gaussian apodized. Because the paper deals with radiance validation I think that the same definition should be used for all instruments (and should be explicit in the paper). A table comparing all spectral resolutions for the instruments quoted in this paper, along with proper definition, would be welcome.

- It would be very helpful to compare the findings of this paper in terms of radiance agreement, as compared to the initial instrumental radiance requirements provided in the science plans for both IASI and AIRS instruments, eg for radiometric stability. Does it match with the expected values?

- The study relies only on a few cases. Can the conclusion be extended to a longer period/ larger scale?

Interactive comment on Atmos. Chem. Phys. Discuss., 9, 10193, 2009.

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Interactive Comment