

Interactive comment on “Intercomparison of integrated IASI and AATSR calibrated radiances” by S. M. Illingworth et al.

Anonymous Referee #2

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The paper by Illingworth et al. presents a method for intercomparing TOA radiances measured by two distinct sensors with coverage of the thermal infrared region: a high spectral resolution with medium spatial resolution spectrometer (IASI) and a broadband radiometer with high spatial resolution (AATSR). The main objective of the paper is the validation of the IASI radiances and the results obtained so far provide good indication that the instrument meets its target accuracy of 0.5 K. The paper is concise, well written and well structured. Despite dealing with a limited set of data (one day of IASI measurements was analyzed) it is very clear both on objective and conclusions; the first results on the IASI absolute radiometric calibration will likely be useful for further climate and/or chemistry applications and I therefore strongly encourage publication of the paper in this ACP special issue.

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A few minor comments are listed below

Specific comments:

Page 8104, line 3: A better reference for IASI would now be the Paper by Clerbaux et al., in this special issue.

Section 3.3.: It would be good to provide some additional characterizations of the selected IASI scenes. Where are they mostly located (the small temperature dynamic range -Figure 4- seems to indicate few points at high latitudes)? It would also be useful to provide the total number of match-ups between IASI and AATSR for the selected day, the total number of IASI scenes within each classes (clear, cloudy,..) and the fraction of inhomogeneous pixels in them (assuming e.g. the clear-sky maximum standard deviation).

Section 3.4. There is on page 8107, line 1, a reference to the paper by Wang and Cao on the intercomparisons between IASI and AVHRR, which are on the same platform and hence always match spatially. But there is no further reference or discussion with respect to this. Do the present results agree with this AVHRR-IASI comparison?

Technical corrections:

Reference Clerbaux, 2007: Remove “2” after GMES.

Interactive comment on Atmos. Chem. Phys. Discuss., 9, 8101, 2009.

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