

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

**Anonymous Referee #1**

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### **General Comments:**

The paper by Illingworth et al. presents a cross-validation of the IASI instrument on Metop with the AATSR instrument on the Envisat satellite. This is a very important first step of an inter-comparison to prove the capability that IASI as an operational satellite instrument can measure top of atmosphere radiances accurate enough for various applications related to climate. The paper is well written and structured and the special section on first IASI results in ACP seems the right place for publication. Detailed comments are listed below, although I see no major problems and the paper should be acceptable if the suggestions will be considered.

### **Specific comments:**

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Sections 3.2:

- Can you briefly discuss the AATSR issue on cloud flagging over land?
- Why you use only one day of data? This limits the statistical significance and the temperature range. Please give a more detailed comment on this item, which is the major weakness of the paper.
- Can you clarify why a miss-time of maximum 20 min is a good threshold? Is this part of the Merchant et al. paper?

Section 3.3

The total number of the grouping (cloudy/fractional cloudy/clear sky) would be helpful.

### **Technical corrections:**

Fig 4 and 5: It is not obvious to me why the color code suggests differences up to -1K and -2 K respectively, but the data points (red symbols) look much closer to the one-to-one line.

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

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