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Interactive comment on "IASI-METOP and MIPAS-ENVISAT data fusion" *by* S. Ceccherini et al.

Anonymous Referee #2

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Ceccherini et al. report on the data fusion of simulated and real ozone observations from MIPAS and IASI. The paper is very topical and illustrates clearly and quantitatively the value of their method. I have only one serious comment: It is hard to get a feel for the method without quoting a few equations. I realize that their omission was deliberate and that a detailed discussion of the method is to be found elsewhere. Nevertheless I found it disconcerting that no equations were given. The authors need to find some way to include just a few summary equations to give the reader the flavour of the method. Minor corrections:

1. Pg. 184, line 22, 'the NASA'

2. Pg. 185, l. 11, 'problem; indeed'

3. Pg. 187, l. 1, 'by comparing'

4. Pg. 188, l. 7, 'for data fusion'; l. 26, 'of keeping separate'

5. Pg. 189, l. 20, 'matrices which, respectively, allow the quality of the product to be estimated'

6. Pg. 190, l. 11, 'steps'; l. 12, 'by interpolating at the predefined grid points'; l. 20, the maximum optical path difference should be quoted for IASI and MIPAS, not just the resolution.

7. Pg. 191, l. 16, '72 km altitude'; l. 19, 'altitudes with 1.5 km steps' and so forth for the rest of the sentence; l. 26, 'on the ozone'

8. Pg. 192, l. 23, 'gives a smaller error in'

9. Pg. 193, l. 7, '20 km reduces the'

10. Pg. 194, l. 5, 'provides a significant'

11. Pg. 195, l. 3, 'of real IASI and MIPAS measurements'; 'In order to test the practicality...previous sections on real measurements,'; l. 10, 'Earth's surface above sea level'; l. 11, '1 km steps'

12. Pg. 196, l. 2, 'numbers reported...due to differences between'

13. Pg. 197, l. 1, 'bits'

14. In references 'J. Quant. Spectrosc. Rad. Trans.' in several places; pg. 198, l. 33, 'thickness'

15. In figure captions, Figures 3 and 9, 'panel (a) in the low altitude region'

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