Please find a point-by-point discussion and answer of the issues raised by the reviewers. To facilitate the work of reviewers and the editor, the reviewer's comments and suggestions are preceding each reply in blue. The authors are grateful to referees for their constructive remarks.

Referee #2

Specific Comment

The main point is related to the lack of description of retrieval methodologies framework of the IASI products used and cited in this paper. Even if the article does not aim to describe the IASI H2O operational products, the authors should at least distinguish between results obtained with statistical retrieval (such as EUMETSAT IASI L2 products) and physical retrieval (i.e. Masiello et al. 2013 reference in the paper). In the literature it is widely known that the former methodology has a poorer vertical resolution with respect to the latter.

As an example the authors can compare panel 11 of Figure 3 and Figure 9.a) of Masiello et al. 2013. In both cases the lidar sees a dry line around 2-5 km in agreement with ECMWF analysis. But in the first case IASI product is smoother then lidar profile and does not see the dry line, while in the second case IASI is capable to fit this kind of structure. The difference is for sure related to the type of methodology behind the products: the first one uses a statistical approach and the second one a physical retrieval scheme. This information should provide to the reader a better description of the quality of vertical profiles derived from Hyperspectral satellite measurements. In addition the authors, to state the capability of retrieving Water Vapor mixing ratio profiles on a Global scale, cited Amato et al. 2009 paper. The methodology described in this article is based on Statistical approach, while the dataset used in this article has been processed with physical based methodology in another paper of the same journal number (Masiello et al. 2009).

Yes, we agree with the referee and a brief description of the IASI products obtained with statistical retrieval and physical retrieval has been added in our paper:

"Note that the operational product uses a statistical approach to retrieve the geophysical parameters. Other approaches use a physical scheme and give access to a better vertical resolution (e.g. Amato et al., 2009; Masiello et al., 2013). Nevertheless, the goal of this paper is to provide quantitative elements of validation for the operational product using the statistical approach."

The reference to Amato et al. (2009) has been moved.

The second point is related to the Introduction section. I find it is a bit unfair and misleading that the authors dealt with history of Water vapor retrieval jumping from TIROS to TES neglecting the heritage of the Japanese Fourier Transform Spectrometer IMG.

Good remark, we have added the Japanese Fourier Transform Spectrometer IMG in our introduction. In addition, we worked on the evaluation of this instrument before launch. We have added the reference to Ogawa et al. (1994).

Minor point

Reference Hilton et al. 2012 appears twice at pages 14089 and 14090. The second one seems to be correct!

We have deleted the first one which is wrong.