

## ***Interactive comment on “HDO and H<sub>2</sub>O total column retrievals from TROPOMI shortwave infrared measurements” by Remco Scheepmaker et al.***

### **Anonymous Referee #1**

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This is a very well written paper. The paper describes the basic radiative transfer and retrieval theory for estimating HDO and H<sub>2</sub>O using TROPOMI data, its error analysis, and a discussion of likely interferences that would affect data quality or amplify the errors.

I have read through the paper three times and really have nothing to comment upon with respect to the primary subject.

I would suggest adding some discussion about how different sensitivities between HDO and H<sub>2</sub>O affect the interpretation of the data (i.e. the Schneider et al. papers and more specifically Schneider et al. AMT 2012) but I leave that up to the discretion of the authors.

You could also add some discussion on the potential of aircraft validation of these data as there are still unresolved discrepancies between the total column and thermal IR data that could be addressed with aircraft validation. Again, I leave that up to the discretion of the authors, especially since this is an error characterization, not validation, paper.

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Discussion paper

