

## ***Interactive comment on “Comparison of GOME-2/Metop total column water vapour with ground-based and in situ measurements” by N. Kalakoski et al.***

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Dear,

first, I want to congratulate you with the nice research described in the manuscript. The research is also presented very clearly and figures and tables, especially in the important section 5.2, are so well chosen.

But, I also want to draw your attention to a paper that we recently published in AMT, in which we compared for about 30 sites integrated water vapour measurements of radiosondes, GPS, AIRS, sun photometers and the combination of GOME, SCIAMACHY

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and GOME-2 ("GOMESClA"): Van Malderen, R., Brenot, H., Pottiaux, E., Beirle, S., Hermans, C., De Mazière, M., Wagner, T., De Backer, H., and Bruyninx, C.: A multi-site intercomparison of integrated water vapour observations for climate change analysis, *Atmos. Meas. Tech.*, 7, 2487–2512, doi:10.5194/amt-7-2487-2014, 2014.

Similar issues as in your manuscript were tackled in our paper, e.g. a wet GOMESClA (and AIRS, etc.) bias against GPS for small water vapour total columns, and a dry bias for large water vapour total columns, the impact of the cloud fraction on the comparisons (biases + other scatter plot properties) of water vapour total columns, the seasonal and latitudinal dependence of GOMESClA (and AIRS, etc.) biases (and standard deviations) with respect to GPS. For these issues, we give some alternative explanations, or we refer to other literature results. It might give an added value to your manuscript if you could confront your findings with the ones described in our paper!

Sincerely,

Roeland Van Malderen

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Interactive comment on *Atmos. Meas. Tech. Discuss.*, 7, 12517, 2014.

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