

Interactive comment on “Improved retrieval of global tropospheric formaldehyde columns from GOME-2/MetOp-A addressing noise reduction and instrumental degradation issues” by I. De Smedt et al.

Anonymous Referee #1

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The paper provides a detailed description of an improved formaldehyde (HCHO) retrieval (from the BIRA group), as applied to the GOME-2 sensor.

The manuscript is well written and provides an informative account of the new GOME-2 HCHO retrieval. I only have a few minor comments that need to be clarified before publication in AMT.

Page 5573, Line 9: Typo? Should “key actor” be “key factor”?

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Page 5574, Line 8: Phrasing. Change to “. . .variability of tropospheric emissions.”

Page 5578 & Figure 2: Have the sensors been sampled in the same way, i.e. only using days/locations when coincident observations occurred? How do differences in the cloud products from SCIAMACHY and GOME-2 contribute (if at all) to these differences? Please elaborate.

Section 3.2 I'm not familiar with the approach of Pukite et al. (2010). Can you please provide more details on this correction, especially as it has a significant impact on the retrieval.

Section 4 Which version of MEGAN was used in the IMAGES model?

Figure 2: Can the y-scale be stretched (e.g., from -0.5 to 1.0), to help distinguish the different lines?

Figure 6, RMS Panel: It is unclear which FWHM is being plotted. Is it the pre-flight or asymmetric slit function? Please clarify.

Interactive comment on Atmos. Meas. Tech. Discuss., 5, 5571, 2012.

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