

## ***Interactive comment on “Evaluation of a regional chemistry transport model using a newly developed regional OMI NO<sub>2</sub> retrieval” by G. Kuhlmann et al.***

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### **Response to Reviewer 3**

We like to thank reviewer 3 for his or her feedback. The manuscript has undergone a major revision based your and reviewer 1's comments. The updated manuscript is attached as supplement to this reply.

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#### **1 Reply to minor points:**

To 1) We agree that improved CTM performance, mainly by updating our emission inventory, should greatly improve the HKOMI retrieval. This has been included in the updated manuscript (Section 5.3 and 5.4).

To 2) We did not test different CRFs filter thresholds. Since CRFs in the PRD region are frequently high, a larger threshold is required to obtain a sufficient number of data (see also Chan et al., AMT, 2012). The CRF filter threshold can influence mean NO<sub>2</sub> VCDs, because NO<sub>2</sub> concentrations can differ between clear and overcast conditions. However, the CRF filter does not change the major findings of our study, because ground measurements and CMAQ fields were temporally collocated with the OMI datasets.

To 3) The introduction has been rewritten and the sentence was removed.

Please also note the supplement to this comment:

<http://www.atmos-chem-phys-discuss.net/14/C13022/2015/acpd-14-C13022-2015-supplement.pdf>

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