Atmos. Chem. Phys. Discuss., 13, C3554–C3555, 2013
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Atmospheric Chemistry and Physics Discussions

Interactive comment on "Coherent uncertainty analysis of aerosol measurements from multiple satellite sensors" *by* M. Petrenko and C. Ichoku

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Received and published: 12 June 2013

Dear Reviewer #1, thank you for the suggested reference! The text below summarizes the changes that we made in the revised version of the manuscript based on this specific suggestion. Please see the attached PDF document for the full list of changes.

Thank you, Maksym Petrenko and Charles Ichoku

Q.1.1. Just a suggestion that the authors may consider. There was a paper published recently with a very similar objective and that could get cited: Bréon, FM, A. Vermeulen, J. Descloitres, 2011: An evaluation of satellite aerosol products against sunphotometer measurements. Rem. Sens. Env, 115, 3102–3111.

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Interactive Discussion

Discussion Paper

– Thank you for the useful reference, we have discussed its relevance to the presented work in the revised manuscript as follows:

'Finally, a recent study compared AERONET retrievals with a set of 5 spaceborne aerosol products archived at the ICARE Data and Service Centre, including POLDER, MODIS-Aqua (Dark Target retrievals), MERIS, SEVIRI, and CALIOP (Bréon et al., 2011). Although that study was based on a similar collocation framework as that used in the current study, our study focuses on a different set of sensors that provides a more extensive set of over-land spaceborne aerosol products. Furthermore, the presented study is based on the analysis of the spatio-temporally averaged and outlier-screened data, whereas that of Bréon et al. (2011) is predominantely based on the analysis of individually collocated spaceborne and ground-based data points that are the closest in space and time that would correspond to the central values in our collocated data subsets (we report a similar analysis in the Digital Supplement to this paper).'

– Further, we have updated our POLDER data filters to make the results of our study more comparable to the results of the study in the reference:

'Since there are no formal recommendations on the acceptable range of these flag values, we have adopted thresholds suggested for the 'quality of inversion' flag in (Bréon et al., 2011), specifically 0.5 for land retrievals and 0.2 for ocean retrievals.'

Please also note the supplement to this comment:
http://www.atmos-chem-phys-discuss.net/13/C3554/2013/acpd-13-C3554-2013-supplement.pdf

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Interactive comment on Atmos. Chem. Phys. Discuss., 13, 4637, 2013.