

Interactive comment on “Deriving Brown Carbon from Multi-Wavelength Absorption Measurements: Method and Application to AERONET and Surface Observations” by Xuan Wang et al.

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I would like to correct a statement made by Reviewer#3 about the OMI SSA evaluation using AERONET inversion dataset as reported in Jethva et al. [2014].

Reviewer states that “Jethva and Torres (2011) and Ahn et al. (2014) conducted an evaluation of AOD alone, not AAOD. Jethva et al. (2014) did an SSA evaluation and showed that OMI SSAs are higher than AERONET SSA. For example, about 50% of total samples showed the difference of 0.03 or higher and 25% showed 0.05 or higher differences.”

A careful examination of OMI versus AERONET SSA plots shown in Jethva et al. [2014]

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, page 14, figure 9, suggests that the percentage matchups that falls within ± 0.03 and ± 0.05 uncertainty limits are with reference to their absolute difference (OMI minus AERONET) which includes both, positive and negative biases. This is clearly evident in the scatter-plot in which the matchups are spread on both upper and lower sides of the one-to-one line. Furthermore, in the same Figure 9, the difference between OMI and AERONET SSAs is shown as a function of UV-AI, which further illustrates that though OMI SSAs are overall bias high at lower end of UV-AI range (< 2.0), the differences are evenly spaced on both positive and negative sides for UV-AI greater than 2.0. However, the present reviewer misinterprets that OMI SSAs are always bias high with reference to the AERONET SSAs, which seems to be not true.

For the reference, I am including Figure 9 of Jethva et al. [2014] in this comment.

Also, note that the comparison between AERONET and OMAERUV SSA retrievals does not constitute a validation analysis since both measuring techniques are based on inversion algorithms that rely on assumptions. The resulting level of agreement can only be interpreted as a measure of consistency (or lack thereof) in the measurement of the same physical parameter by fundamentally different remote sensing approaches.

Best,

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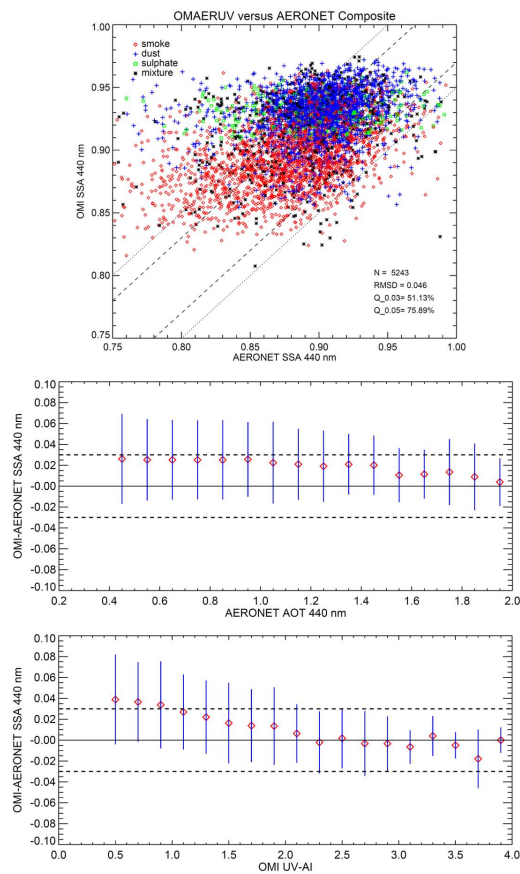


Fig. 1.