

Interactive comment on “MISR Research Aerosol Algorithm: refinements for dark water retrievals” **by J. A. Limbacher and R. A. Kahn**

Anonymous Referee #1

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In this manuscript, the authors implement several changes to the MISR research algorithm for retrieving aerosol properties over dark water. They show that these changes, on average, improve retrieved AOD and Angstrom Exponent. While the science in the paper seems sound, at times, I found the paper to be dense with a lot of information and MISR-specific jargon that made it a slow read. I realize that this may be somewhat unavoidable, and AMT is the right journal for retrieval details.

I feel that this article can be published in AMT once several issues are addressed.

P7839 L10 - Do the scattering angles vary from a scattering angle of 60 deg to a scattering angle of 160 deg, or does the max difference in scattering angles between 9 cameras vary between 60-160 deg. Please be more specific here.

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P7841 L11-18: How does the RA represent the ocean surface now? The paragraph seems to end suddenly without saying this.

P7841 L19-end-of-paragraph: This paragraph seems out of place. What does this have to do with “Retrieval algorithm setup”?

Table 5 and Section 3.1: What is the adjustment described in Section 3.1 called in Table 5? I guess it is “median or min” but I don’t see it explicitly stated.

Figure 5 and Section 3.2: So the retrieved blue AOD is higher when the ocean surface improvements are included? Please make sure the direction of the changes is clear.

P7851: The two instances of “and conversely” here seem unnecessary, and they are a little odd for ending a sentence. Would anyone assume that the converse wouldn’t be true here?

Section 4.4: NCF is not defined. Is it non-cloudy fraction? Are then NCF and FNC the inverse of each other? Why do both of these terms have negatives in them? Cloudy fraction or clear fraction would be a bit less mind bending.

Interactive comment on Atmos. Meas. Tech. Discuss., 7, 7837, 2014.

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