

We thank Dr. Mishchenko very much for his comments and suggestions.

*The other three reviews of this manuscript are quite comprehensive and instructive. I agree with most of those comments and suggestions and believe that the paper should be published after an extensive but mostly technical revision.*

*I will add just two personal comments. The second paragraph on page 4298 is the manifesto of this manuscript and reads as if proposing something that has not been done before. I believe that this needs to be corrected. Indeed, this programmatic approach was put forth and used extensively in Refs. [1–3] (and probably in other publications?), which should be acknowledged explicitly. This would not diminish the originality of the manuscript, but would put it in a proper factual context.*

*Similarly, the left-hand panels of Fig. 3 reveal the basic patterns well seen in the upper left panel of Fig. 3 in [3] (see the erratum in [4]) and discussed briefly therein. This should also be discussed.*

We have added the references as suggested. “One way to approach spatially correlated bias is through cross-comparisons between satellite aerosol products, not only over the AERONET sites, but also over regions that may lack ground-based observations (Abdou et al., 2005, Mishchenko et al., 2007, Liu and Mishchenko, 2008, Mishchenko et al., 2009, Kahn et al., 2009, Kahn et al., 2010, Kahn et al., 2011).”

Also, for Fig.3 we have added descriptions and citations. On Page 4305 Line 1 we have added “What are shown in the left-hand panels of Fig. 3 are consistent with Mishchenko et al., (2009).” after “of 1.1–1.5 are found.”

On Page 4314 Line 31 we added:

Liu, L., and M. I. Mishchenko, 2008: Toward unified satellite climatology of aerosol properties: direct comparisons of advanced level 2 aerosol products. *J. Quant. Spectrosc. Radiat. Transfer* 109, 2376– 2385.

Mishchenko, M. I., I. V. Geogdzhayev, B. Cairns, B. E. Carlson, J. Chowdhary, A. A. Lacis, L. Liu, W. B. Rossow, and L. D. Travis, 2007: Past, present, and future of global aerosol climatologies derived from satellite observations: a perspective. *J. Quant. Spectrosc. Radiat. Transfer* 106, 325–347.

Mishchenko, M. I., I. V. Geogdzhayev, L. Liu, A. A. Lacis, B. Cairns, and L. D. Travis, 2009: Toward unified satellite climatology of aerosol properties: what do fully compatible MODIS and MISR aerosol pixels tell us? *J. Quant. Spectrosc. Radiat. Transfer* 110, 402–408.