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Atmospheric Measurement Techniques Discussions

Interactive comment on "Where do we need additional in situ aerosol and sun photometer data?: a critical examination of spatial biases between MODIS and MISR aerosol products" *by* Y. Shi et al.

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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.

[1] 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. [2] 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. [3] 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. [4] Mishchenko, M. I., I. V. Geogdzhayev, L. Liu, A. A. Lacis, B. Cairns, and L. D. Travis, 2009: Erratum to "Toward unified satellite climatology of aerosol properties: What do fully compatible MODIS and MISR aerosol pixels tell us?" [Journal of Quantitative Spectroscopy and Radiative Transfer 110 (2009) 402–408]. J. Quant. Spectrosc. Radiat. Transfer 110, 1962–1963.

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