

Interactive comment on “Global and regional trends in aerosol optical depth based on remote sensing products and pollutant emission estimates between 2000 and 2009” by A. de Meij et al.

Anonymous Referee #2

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This is a useful trend analysis of MODIS, MISR, and AERONET aerosol datasets which deserves to be published. However, the paper should be revised in order to place it in the appropriate context with respect to previously published results.

1. Regional and global AOT trends based on AVHRR data and preceding these new trends were published in the following papers:

Mishchenko, M. I., and I. V. Geogdzhayev, 2007: Satellite remote sensing reveals regional tropospheric aerosol trends. *Opt. Express* 15, 7423–7438.

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Zhao, T. X.-P., et al., 2008: Study of long-term trend in aerosol optical thickness observed from operational AVHRR satellite instrument. *J. Geophys. Res.* 113, D07201.

I believe it would be very instructive to compare the old and the new trends as most of them seem to be similar. If so, this would add credibility to both.

2. AOD and AE trends based on level-2 MODIS and MISR data were published and discussed in

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 [erratum: *JQSRT* 110, 1962–1963 (2009)]

Again, it would be appropriate to compare/discuss the current level-3 results with the previous level-2 results.

Interactive comment on Atmos. Chem. Phys. Discuss., 10, 30731, 2010.

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