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Discussions

Interactive comment on "Recent trends in aerosol optical properties derived from AERONET measurements" *by* J. Li et al.

Anonymous Referee #2

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This is a well written paper. The methodology is well explained and the paper is easy to follow and read. However, I do agree with the previous reviewer that the largest issue with this paper is the use of the level 1.5 AERONET data. The level 2.0 AERONET data are constructed for a reason. Also, I am not very sure if the AOD> 0.4 criteria was applied for the level 1.5 data. If not, as suggested from the first reviewer, it should be applied as well.

Also, the authors showed the trend comparisons between the level 1.5 and level 2.0 AERONET data for Beijing (Figures 3 and 5). Was the AOD> 0.4 criteria applied to both AERONET data sets (level 1.5 and 2.0) or was it applied to the level 2.0 data only? Note the authors need to convince us that with and without using of the AOD> 0.4 criteria, trends are consistent. I would recommend that the authors compare the

level 2.0 trends with the use of the AOD > 0.4 cutoff and the level 1.5 trends without using the AOD > 0.4 cutoff for a few AERONET sites that are heavily polluted with aerosols and a few sites that have lower averaged yearly mean AODs.

Also, even level 2.0 AERONET data may subject to thin cirrus cloud contamination (e.g. Chew et al., 2011). Would the thin cirrus cloud contamination also affect the trend analysis as presented? The authors should at least touch on this issue.

Lastly, I would recommend that the authors keep their AOD and AE analysis on a global scale, while for the rest of the parameters, focus only on the four AERONET sites that have sufficient level 2.0 data.

Interactive comment on Atmos. Chem. Phys. Discuss., 14, 14351, 2014.