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Atmospheric Chemistry and Physics Discussions

Interactive comment on "Ground-based aerosol climatology of China: aerosol optical depths from the China Aerosol Remote Sensing Network (CARSNET) 2002–2013" *by* H. Che et al.

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General comments: This paper studied more than 10 years' measurements of aerosol optical depths and Angstrom exponents made for 50 sites of CARSNET compiled into a climatology of aerosol optical properties for China. This is an outstanding work about the ground-based aerosol optical property study. It lets us see a detailed full-scale description of AOD observations over China. The results would benefit us a lot in comprehending the temporal and special distribution aerosol optical property over China. Also the data would be worthful to those communities of aerosol satellite retrieval, modelling validation, numerical assimilation, etc. I do think CARSNET contributions

to science would be extremely important for Chinese science and the world in future. This article is clearly structured and English usage is very good, well suited for the publication in ACP. I just have few minor suggestions for the author to consider before the final publication.

Special comments: (1) Introduction part: I suggest the authors include more related references about ground-based aerosol optical property study of China. As far as I know, there are at least 10 references about Cimel aerosol optical property study which the authors ignored to cite in the context. (2) Page 12719, line 18-19: One more reference of Wang et al. 2011 JGR should be added. (3) Page 12722, line 4: It should be “Holben et al., 1998”. Please correct it. (4) 3 Results: CARSNET measurements: I suggest the authors add more literatures related to prove their explanations and speculations.

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