

***Interactive comment on***  
**“Observationally-constrained estimates of global  
small-mode AOD” by K. Lee and C. E. Chung**

**K. Lee and C. E. Chung**

eddy@gist.ac.kr

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I thank this reviewer for valuable feedbacks. Today was the last day that this reviewer was allowed to post his/her feedbacks, and I wondered if he/she would make it in time.

I am especially grateful for the comments on GOCART simulation. We will certainly update the GOCART simulation and relevant tables/figures as a result. We will address the other concerns as well.

Regarding the global bias (on which another reviewer commented as well), we did not intend to fix the bias by a simple global number. The global bias was corrected in order for the AERONET data adjustment to work better. The way we coupled MODIS/MISR data to AERONET data (i.e., the way the AERONET data adjustment is made) can also

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be understood as follows. The MODIS/MISR AOD, e.g., is adjusted regionally with the AERONET AOD, where the regional area size dynamically changes depending on the availability of AERONET data. This dynamic adjustment removes regional biases but does not remove global bias completely. Removing global bias (prior to applying the AERONET data adjustment) fixes the global and regional biases both. We will better explain this in the revised manuscript.

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