

Interactive comment on “New approach to monitor transboundary particulate pollution over northeast Asia” by M. E. Park et al.

Anonymous Referee #3

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General comments:

The manuscript presented results of assimilating a new AOD data source from geostationary GOCI sensor with the CMAQ model and OI data assimilation approach. Assimilated AOD was used to monitor long-range transport of air pollutant over northeast Asia. The paper is overall well written although some result interpretation is too brief. Presented results have some implication for policy making.

However, this reviewer had difficulty to find what new technical approach they have developed and what scientific questions the paper addressed. The authors claimed ‘new approach’, but it just used some relatively old DA technique to assimilate a new data source and produced un-surprised results. This reviewer does not see technical

C7228

and scientific significance to grant the publication of this paper.

Specific comments:

P15872, Line 25: “4DDA” refers to 4DVAR or obs nudging? Better to add reference here.

P15873, Line 5: Why only mentioned ASCAT? No other meteorological observations assimilated? Do NOT think ASCAT ocean wind is that important for the long-range transport process.

Section 2.4: better to briefly describe how 2D AOD analysis is partitioned into different 3D aerosol species.

Interactive comment on Atmos. Chem. Phys. Discuss., 13, 15867, 2013.

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