

Interactive comment on “A new statistical approach to improve the satellite based estimation of the radiative forcing by aerosol–cloud interactions” by Piyushkumar N. Patel et al.

Anonymous Referee #1

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The authors have dealt with my suggestions made during preliminary review. Thank you for helping me better understand your study. I had missed that improvement of RMSE was large in my first read through. Overall the paper is well written and referenced.

In regards to the choice of region, I think the discussion does a good job of making the case for South Asia being the most challenging test case for new methods.

Line 133: I think there is a typo on this line. Line 168: How much of an impact does the simplified surface albedo have? I would have thought that the calculation would have some sensitivity to whether it was looking over a forest or farmland. Maybe it averages out, but it seems like it might be enhancing the authors' calculation error. Sea surface

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albedo also varies a lot depending on meteorological conditions [Jin et al., 2011].

Line 230: There might be a typo on this line discussing RMSE reduction. Line 262: There is a typo in the last sentence.

I have no other major suggestions relating to this paper and find it acceptable for publication pending minor revisions and grammar corrections.

Jin, Z. H., Y. L. Qiao, Y. J. Wang, Y. H. Fang, and W. N. Yi (2011), A new parameterization of spectral and broadband ocean surface albedo, *Optics Express*, 19(27), 26429-26443.

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