

Interactive comment on “A Dark Target research aerosol algorithm for MODIS observations over eastern China: Increasing coverage while maintaining accuracy at high aerosol loading” by Yingxi R. Shi et al.

Yingxi R. Shi et al.

yingxi.shi@nasa.gov

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Thank you for Dr. Angal's comments. It is good to know that the 1.24 micron on Terra experienced significant degradation. We didn't use any Terra image in this study. However, I checked one case study on Terra granule with low AOD cases (granule id: 2013348.0310, see supplement). For this particular case, we can see pollution in eastern China, where MODIS DT C6.1 retrieves the surrounding area but misses the center of the plume. Snow Mask shows that over these areas the NDSI exceed the threshold of potential snow on the ground and the brightness temperature shows

that the area is relatively warm (281 K). In research data, the data coverage increased with some data missing as an arrow shape in the middle, which is corresponding to the low temperature pattern (in blue) in the BT image. Thus, for this case, the 1.24 micron channel still works, however, we need larger sample validation to understand the effects of the degradation.

Please also note the supplement to this comment:

<https://amt.copernicus.org/preprints/amt-2020-450/amt-2020-450-AC3-supplement.pdf>

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