Atmos. Meas. Tech. Discuss.,
doi:10.5194/amt-2020-450-SC2, 2021

Atmospheric Measurement Techniques Discussions

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.

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Received and published: 6 January 2021

This work was interesting, which inspired me from another view to think about the strict cloud mask in the operational algorithm that maybe caused by inappropriate inland mask or snow mask. But some questions have been bothering me when I learned from this artical, please take several minitues to help me undertand clearly. Q1: Section 3, you talked about case 1 (high AOD pollution) and case 2 (a low pollution), which means that you wanted to improve the operational mask from these two points, but in the Section 5 and Section 6, you spent a lot of time describing the validation results

of case 1, it will be a complete story if you focus on the better performance of case 2. For example, Figure 10 clearly indicates a better improvement in high AOD values of research algorithm, but when OAD falls within the range of 0∼1.0, the differences of the three products almost overlap, and it is difficult to distinguish which is better.

Q2: As presented in Table 1, it is difficult to conclude the 'Also notice that the moderate absorbing aerosol model shows increased absorption with increasing AOD, which is opposite to the non-abosrbing model as well as to the regional model.' And 'The differences in the imaginary part of the refractive index show that when compared with . . .. . .ïijN̆ when AOD> ∼2, ... when AOD<0.5. . .. . .', you have not shown any figure or table to prove this. As for the real part of refractive index, the regional type has more strong scattering effect.

Interactive comment on Atmos. Meas. Tech. Discuss., doi:10.5194/amt-2020-450, 2020.