

Interactive comment on “Optical and microphysical properties of natural mineral dust and anthropogenic soil dust near dust source regions over Northwestern China” by Xin Wang et al.

Anonymous Referee #1

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This study presents the optical and physical properties of anthropogenic soil dust and natural mineral dust near the dust source regions in East Asia. This information is the key to evaluate the impacts of dust on the regional climate. Results and discussions are comprehensive, some valuable information have been generated. I would recommend the paper to be accepted for publication after a few comments as listed below have been addressed. 1. I strongly suggest the authors to reorganize the introduction section. The relevant studies on aerosol optical properties over East Asia should be reviewed. Accordingly, significance of this study could be further summarized and fo-

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cus. For example, page 3 and page 4 all discussed the research importance of dust aerosol rather than their optical properties. 2. I suggest the authors to more pay attention to the logics between the sentences and paragraphs. For example, the logic in line 15-22 in page 3 is confusing. Organic matters and sulfate are the dominant chemical compositions of aerosol, why the authors only mentioned BC here? 3. I also strongly suggest authors to break down the result section into several topics or sections for reading friendly. 4. I suggest the authors to reorganize the abstract and conclusions due to these two sections are too similar. 5. The QA/QC of all instruments should be addressed in section 2.2. 6. Generally, the MAE of BC could be determined by its size distribution and coating. Why authors choose $6.6 \text{ m}^2 \text{ g}^{-1}$?

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