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Atmospheric Measurement Techniques Discussions

Interactive comment on "A method for the spectral analysis and identification of Fog, Haze and Dust storm using MODIS data" *by* Qinghua Su et al.

Anonymous Referee #1

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In this paper the authors selected three extreme events of fog, haze and dust storm and developed a methodology to distinguish between those three phenomena. Validation with ground data reveals that the method is promising. Overall, the main idea of the paper is interesting; however, the manuscript per se is not good and does not meet the standards of AMT. Therefore, I suggest to reject this paper due to the major issues mentioned below.

1. The paper suffers from language issues. At almost every sentence there is at least one grammatical error and at some points the manuscript is hard to follow. Unfortunately, at its current format the paper would not be accepted for publication not only in AMT but also in the majority of serious scientific journals.

2. The authors selected only three case studies which impairs the robustness of their

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Discussion paper

results. I have the feeling that the method works under the specific conditions for which it was developed but it is not sure if it can be used in other cases or on an operational basis. Land albedo changes from time to time and the method might not be applicable in other cases. What about mixed cases where fog and dust exist at the same time?

3. I disagree that dust storm should be considered as an extreme weather phenomenon. It is rather the result of specific weather types and synoptic transport than a weather phenomenon.

4. The quality of the images remains low and the captions are poor.

5. I have the feeling reading the paper that the method is not properly described. How did the authors decide to select the specific bands and indexes? Is there a theoretical basis? In that case there should be previous studies; however, there is not a single reference in the text.

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