

Interactive comment on “Profiling the PM_{2.5} mass concentration vertical distribution in the boundary layer” by Z. Tao et al.

Anonymous Referee #1

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The article “Profiling the PM_{2.5} mass concentration vertical distribution in the boundary layer” submitted by Z. Tao et al. for its review is a new technique. Previous results show that there is tied relationship between the PM_{2.5} mass concentration and AOD from the view of statistics. The authors want to match the aerosol extinction coefficient and PM_{2.5} and stress out the profile of PM_{2.5} based on a new CCD lidar technique. General comments: In my opinion, the study has a good presentation and has been clearly written. The scientific objective is important, and it is a fair study of a key issue that affects many other scientific works (such as the evaluation of air pollution and forecast). therefore I consider it to be suitable for its publication on Atmospheric Measuring Techniques journal. Specific comments: 1. In the page 12934, line 9, should be “side-scatter lidar with a PM_{2.5} ...” and line 14, the “characteristic” should

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be characteristics. 2. In the page 12935, line 1, “The PM_{2.5} poses great health risks...” is better. 3. In the page 12936, line 2, “...suitable to detect...” should be “...suitable for detecting...” and line 9, the results are... 4. In the page 12937, line 13, there are... 5. In the page 12940, line 16, “...is gotten...” and line 22, “...are shown...” 6. In the page 12941, line 3, “...in previous literature...”, the Hefei site is situated in the east of China...”, line 6, please use “And in Spring, dust aerosol...”, line 21, in the word “maximums”, “s” is unwanted, pls correct it through the article. 7. In the page 12942, line 3, “...a rich structure.” and line 7, “from 58% to 70%...” 8. In the page 12943, line 9, “At the meanwhile...” should be “At the meantime...”

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