

Interactive comment on “Multiple technical observations of the atmospheric boundary layer structure of a red warning haze episode in Beijing” by Yu Shi et al.

Yu Shi et al.

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Dear reviewer,

Thank you very much for your comment on our paper "M", we think it is really very valuable and it helps us a lot.

In particular, as the first author, I am currently a Ph.D. student. I have really learned a lot of boundary layer knowledge from your comments. I would like to express my respect and heartfelt thanks to you !

Based on your review comments, we have added some calculations, redrawn some

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of the figures, and responded to your comments one by one in the attachment, and adopted all your suggestions. Specifically:

- 1) Complement all recommended references.
- 2) Added MODIS satellite cloud image.
- 3) Corrected the representation of the height of the radiosonde detection boundary layer. As you said, the maximum temperature gradient method we obtained should be the residual layer top height.
- 4) Recalculating and drawing with high-resolution radiosonde, giving the wind profile of the low-level jet during heavy pollution. As you pointed out, we should use the jet height (or low-level wind extreme) as the boundary layer height. The value of the boundary height has also been corrected. The drawing is shown in Figure 6.
- 5) Increased the daily variation of the surface wind field in Beijing and the discussion of the removal of pollutants by cold air.
- 6) Respond to all major and minor comments you have given.

We sent the revised paper as an attachment, and we are continuing to modify it.

Thank you very much !

Please also note the supplement to this comment:

<https://www.atmos-meas-tech-discuss.net/amt-2018-391/amt-2018-391-AC1-supplement.zip>

Interactive comment on Atmos. Meas. Tech. Discuss., doi:10.5194/amt-2018-391, 2019.

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