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Atmospheric Measurement Techniques Discussions

Interactive comment on "Graphics Algorithm for Deriving Atmospheric Boundary Layer Heights from CALIPSO Data" *by* Boming Liu et al.

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This manuscript proposed a graphics algorithm for determining BLH from CALIPSO. However, some part of this paper should be carefully considered:

1. The author claimed that they use nighttime data of CALIPSO (0210LT), and calculate the BLH from RS following Liu and Liang (2010). Based on Liu and Liang's paper, the majority of BLHs at 0200 LT is less than 500m (such results from 14 major field campaigns). Nonetheless, in this study, the BLHs at 0210LT from CALIPSO and Lidar are all above 500m (mostly higher than 1km).

2. This study shows that the R2 between the BLHs from CALIPSO at 0210LT and RS at 2000LT is 0.59 (i.e. Figure 9). As we known, the BLH has strong diurnal variances,

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and the BLHs at 2000LT (previous day) and 0200LT should have considerable differences. Although I am not sure about CALIPSO's performance, the R2 of 0.59 (R=0.77) between the BLHs at 2000LT and 0210LT may be questionable.

3. The authors claimed that the cycle time of CALIPSO is 16 days with removals of cloud cases. Given that the night cloud fraction is ∼60% over central China (King et al., 2013), the available CALIPSO sampling for matching Lidar is limited. The author should describe the continuous observation period for Lidar, which may be longer than 2-year.

References

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