

# ACP-2020-857, Atmospheric Boundary Layer height estimation from aerosol lidar: a new approach based on morphological image processing techniques

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The authors have conducted practically all suggested changes. There still are very minor changes I would humbly ask them to make and then the paper will be ready to publish without the need to pass by the referees again.

We wish to thank the Associate Editor and all the Reviewers for the thoughtful comments. We appreciate the constructive comments and suggestions, which have helped us improving the quality of the paper. Corrections and updates have been made according to the Reviewers' indications and replies to each concern can be found below.

## Reply to Reviewer 1

The authors have correctly addressed most of the issues raised by the reviewer's. I recommend the publication of this article after conducting this last issue:

**Thanks for this further note.**

1. Lines 323-324: the equation to calculate the potential temperature is correct, however the value of the numerator (parameter Ps0) is not correct. Ps0 is the atmospheric pressure at the reference level of 1000 hPa, not the atmospheric standard pressure (1013.25 hPa).  
**Done.**
2. Also replace 'kelvin degrees' by 'Kelvin'.  
**Done.**

## Reply to Reviewer 2

1. In the main document the references, sections, and figures names as indicated as "???". It is necessary to correct it.  
**Done.**
2. In figures 2, 5, and 8 the units of the color bar are not correctly positioned.  
**Done.**
3. In Figure 8 there is not a white line.  
**Done.**
4. I recommend adding legend in figures 2, 5, and 8.  
**Done.**

Sincerely,  
The Authors