

# ***Interactive comment on “Comparing the cloud vertical structure derived from several methods based on measured atmospheric profiles and active surface measurements” by M. Costa-Surós et al.***

## **Anonymous Referee #1**

Received and published: 30 May 2014

The paper compares six different techniques to derive cloud heights from radiosonde data. The cloud properties derived from radiosondes are compared to remote sensing measurements. Satellite data is taken into account to account for radiosonde drifting. The paper can be considered important, given the broad variety of such methods, which have been developed recently. An overview about six existing techniques is given. The single methods are described and a detailed statistical analysis is given for the comparison with remote-sensing data. Own approaches to improve the methods are presented and tested.

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Considerable work has been done since the last review. The presentation of the statistical evaluation has been improved significantly and is now very detailed and accurate. The paper is well written, the focus of the work becomes clear and the results are presented in a nice way. I therefore recommend publication in AMT journal.

- Minor Comments

The word "Radiosonde" should appear in the title. Perhaps exchange "atmospheric profiles" to "radiosonde profiles" and change "active surface measurements" to "ground-based remote sensing measurements"

P. 3685 Line 9/10: Please consider that there are more than these three Cloudnet sites in Europe.

P. 3689 Line 17: "However, ARSCL product has the limitation..." - The focus of that sentence is unclear. To what is it compared here?

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Interactive comment on Atmos. Meas. Tech. Discuss., 7, 3681, 2014.

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