

Interactive comment on “Aerosol profiling with the JenOptik ceilometer CHM15kx” by M. Wiegner and A. Geiß

Anonymous Referee #2

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This paper presents results of great interest to the lidar aerosol remote sensing community. The results presented in this paper constitute a step forward toward the routine use of ceilometer networks for aerosol profiling.

I generally found this paper to be well-written with a logical structure. However, there is one aspect of the paper that needs to be improved. The issue of the effect of incomplete overlap at low altitude is well-addressed in Section 4.2 but in Section 2, this issue must also be adequately addressed. As it now stands, Section 2 is potentially misleading to non-expert readers and may even elicit confusion in expert readers. My concerns could be easily and directly addressed by adding text explicitly addressing this issue, e.g. by writing

$$C_l \Rightarrow C_l \exp\left(-2 \int_0^{z_o} \alpha(z') dz'\right)$$

and explaining (as will be expanded upon in Section 4.2) that, for the ceilometer used in this work, z_o is such that $\exp\left(-2 \int_0^{z_o} \alpha(z') dz'\right) \approx 1$.

This last point should be emphasized, as for other types of ceilometer systems with a higher z_o this may not be valid, thus necessitating a potentially bothersome overlap correction.

Interactive comment on Atmos. Meas. Tech. Discuss., 5, 3395, 2012.

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