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Discussions

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Interactive comment on "Experimental calibration assessment of a MPLNET/Micro-Pulse Lidar system in comparison with EARLINET lidar measurements for aerosol optical properties retrieval" *by* Carmen Córdoba-Jabonero et al.

Anonymous Referee #1

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Authors compare MPL data with measurements of Raman lidars, to evaluate the overlap function and estimate it's influence on backscattering coefficient and depolarization ratio. This is useful technical study, which, by my opinion, can be published in AMT after minor revision.

I have just technical comments

Ln.143. "Those two polarized signals are semi-simultaneously detected by alternatively switching in the basis of 50%/50% the LRC polarization mode (LCR switching time of

133 μs) within every integrating minute." Unclear. Switching occurs every minute or every pulse?

Ln.259. "and 25 sr for ND components". Why so small value? For example, for smoke it can be 70 sr.

Eq.5,6. I am confused. To calculate extinction profile assumptions about lidar ratios for all three components are made. Is it still more accurate than just apply Klett solution?

Ln.333. "The P-MPL VLDR is calculated using Eq. 8" I don't see Eq.8.

Ln.364. "Therefore, the P-MPL VLDR must be also corrected by that offset using. . ." But in calculation of VDR from Polly data, the calibration coefficient is used. Can corresponding uncertainty contribute to this offset?

Ln 377. "see Eqs. 4 and 9. . ." I don't see Eq.9.

Fig.5. I didn't understand what is difference between (a,b) and (c,d). Are (c,d) plots necessary? The same about Fig.6.

Fig.8. I don't quite understand why authors decompose extinction for three components. Looks like goal of the paper is to correct the overlap function.