

Interactive comment on “The dual-field-of-view polarization lidar technique: A new concept in monitoring aerosol effects in liquid-water clouds – Case studies” by Cristofer Jimenez et al.

Anonymous Referee #1

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Authors present a newly developed technique, based on use of dual FOV depolarization lidar measurements, for estimation of the cloud droplets concentration and effective radius. I should say that this is very interesting and well written manuscript, which is definitely suitable for publishing in ACP. The modification of the lidar, to get DFOV capability, looks rather simple, so can be used by many lidar groups. The theoretical background of DFOV approach is given in the companion manuscript. I don't feel confident enough to judge, how solid is this approach for derivation the droplets parameters, but comparison of effective radii obtained with DFOV method and results obtained from radar reflectivity shows very impressive agreement. In their approach, authors use two FOV: 1 and 2 mrad. I wonder, how optimal is this choice. Probably, the larger

C1

the difference between “in” and “out” FOV, the more accurate should be results. Is any potential for farther optimization of this method? I had difficulty also to understand the goal of Fig.10. What information does it contribute? And again, this is very impressive, high quality research

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C2