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Atmospheric Chemistry and Physics Discussions

Interactive comment on "Biomass burning events measured by lidars in EARLINET. Part I. Data analysis methodology" *by* Mariana Adam et al.

Anonymous Referee #2

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Authors use database of the European Aerosol Research Lidar Network for extended period of time (2008-2017) to derive the mean optical data and intensive parameters of the forest fire products over Europe. Analysis of the lidar network observations is important but challenging task, because different lidar systems in the network have different data quality, which leads to strong scattering of retrieved parameters. Still the results provided are useful, and manuscript can be published after some revision.

Significant part of the manuscript is dedicated to description of the procedure of data treatment. No question, it is important when large volume of data from different stations is analyzed. Still this is ACP, so may be it is better to put data treatment in Appendix? But this is up to the authors.

Data quality is important and Fig.4 probably should illustrate it. However, it rises a lot

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Discussion paper

of questions. For example, in Fig.4a, extinction. in upper layer (2000 m) at 532 nm is stable, but at 355 nm it oscillates. Is it real or just artifact? On Fig.4b the peak of extinction is more narrow than that of backscattering. Why? At 3000 m depolarization at 355 nm becomes larger than at 532 nm. Is it real? In Fig.4c,d when backscattering coefficients at355 nm are calculated, the reference points are not shown and it is not clear, if these exist. Actually, every plot provides a lot of questions and reader will definitely be confused. The uncertainties should be provided to separate real results from artifacts.

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