

Atmos. Chem. Phys. Discuss., referee comment RC2
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Comment on acp-2021-759

Anonymous Referee #1

Referee comment on "Biomass burning events measured by lidars in EARLINET – Part 2: Optical properties investigation" by Mariana Adam et al., Atmos. Chem. Phys. Discuss., <https://doi.org/10.5194/acp-2021-759-RC2>, 2021

The manuscript deals with lidar-derived optical properties of fire smoke in the air over different parts of Europe. The observations cover fresh smoke events and events with aged smoke after long range transport (frequently from North America). The European Aerosol Research Lidar Network (EARLINET) data base is used for this study.

Unfortunately, the amount of data is so low and even not of high quality (to my opinion) that clear messages and convincing conclusions cannot be drawn. I clearly see that the first author did her best, however, the available data set does not allow to write a sound scientific 'story' because numerous and high quality results are not available. Mariana Adam can just present some kind of a final report (of a not just very successful, big field campaign lasting over many, many years), rather than an article with well extracted results and findings. This is impossible with the used (poor) data set.

At the end, after careful reading and realizing how poor the available data set is, I cannot recommend publication. If this report would be published in its present form, most of the readers would conclude: Better not to use any EARLINET data. The amount is low and the quality is quite questionable, and in full contrast to what aerosol scientists expected when they are familiar with, e.g., the AERONET data base.