

Interactive comment on “EARLINET: towards an advanced sustainable European aerosol lidar network” by G. Pappalardo et al.

G. Pappalardo et al.

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We want to thank the reviewers for their comments. In the following, answers to all comments are reported.

Referee#1 This paper provides an overview of the EARLINET lidar network and this special issue of AMT documenting its productivity since 2000. The paper is extremely well written and an excellent tutorial of the rationale behind the network, the necessary information to understand the papers within the issue and the future of the network. Several scientific applications (volcanic plumes and satellite validation) are discussed by reference. The paper provides an extensive list of references which will serve to shorten the requirements for the papers in the issue to include them all.

C962

I have a few typos:

pg 2932 line 10: this sentence is awkwardly constructed and could read more directly ("It depends" doesn't say what "It" is)... reword.

The sentence has been revised as follows: which aerosol parameter must be observed and which resolution and accuracy is required depend strongly on the scientific objective

Page 2940: line 22 "wasg" → "was"

done

pg 2942 line 13 "manpower" is one word

done

pg 2950: line 17: what is "CERA"?

CERA is the Climate and Environmental Retrieval and Archive of the World Data Center for Climate (WDCC).

This will be better explained in the revised text.

pg 2952: line 6: explain that ALINE is the "South American" lidar network

This has been corrected as follows: ALINE is the Latin American Lidar Network

line 12: CLN is the acronym for the "CREST Lidar Network"

OK, done

pg 2954: line 13 This sentence is awkward brief overview over selected????

The reviewer is right, there was a mistake in the sentence. The text has been revised as follows: In the following a brief overview of selected studies with a significant contribution of EARLINET is presented.

C963

pg 2958: line 23: "instrumentation" drop the "s"

done

Figure 3: Perhaps the Leipzig system can be shown without the annotations which will be unreadable anyway and is out of balance with the other systems.

OK

Figure 4: This would be more readable if the table were unshaded and the font a little larger in the figure. The gray background makes the fonts unreadable.

Done

Figure 6, 7: The color on the bars does not add to the information transfer. Save yourself the publishing cost and make them gray or black.

The reviewer is right, better avoiding color plots if not necessary for reducing the cost. However for AMT color plots do not impact on the cost and the publication charge is related to the discussion phase. So that there is no need to change the figures at this stage. The authors decide to keep them as they are in continuity with the AMTD paper.

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Referee#2

The paper as part of a special issue collection gives a good technical and historical report on EARLINET. It is extensive in order to cover all details and gives the reader a good sense of completeness. There are a few remarks and suggestions covering typographical errors as some colloquial use of some terms that would be worth changing or clarifying.

LINE 14 Page 2932

Aerosol-cloud-radiation

Done

C964

LINE 4 Page 2936

Vibrational-rotational spectrum

Done

LINE 18 page 2939

Dark (current) measurement, telecover test and Rayleigh fits should be put in quotation marks, since they are a technique specific title for tests that are only used in the lidar community.

Done

Also a table summarizing all the information about these tests would give more fluence to the text.

No table has been added because more details will be given in a following paper: Freudenthaler et. al. in preparation for this special issue

Finally I believe these tests are made also when significant changes in the system configuration are performed.

Correct. This will be added in the revised text.

LINE 10 Page 2940

theoretical which do not

done

LINE 11 – 12 Page 2941

Lidar and depolarization ratios

done

LINE 13-14 Page 2941

C965

Systematic differences and errors among all distinct inversion approaches.

OK

LINE 26 Page 2955

Backward trajectories

OK

LINE 7 page 2952

ALINE aka LALINET, Latin American Network (and not South American Network as referee #1 pointed out)

This has been corrected in the revised text.

Figure 4 has very poor resolution

Resolution has been improved

Interactive comment on Atmos. Meas. Tech. Discuss., 7, 2929, 2014.