[GMDD]

Interactive
comment

Interactive comment on "Evaluation of ECMWF IFS-AER (CAMS) operational forecasts during cycle 41r1 - 46r1 with calibrated ceilometer profiles over Germany" *by* Harald Flentje et al.

Anonymous Referee #2

Received and published: 6 December 2020

The paper deals with comparisons of ceilometer aerosol profile data and aerosol modeling products. This is an important topic. The paper also emphasizes that there is a rather large and well organized ceilometer network in Germany (and Europe) and there are aerosol products that can be used and should be used to further improve modelling and forecast.

In agreement with reviewer #1 (I will not repeat all his/her statements), to my opinion the paper is too long, contains too much information, it is not easy to read, and as a consequence only the absolute experts may read it. And that would be a pity.

It makes no sence to go into much detail. A better separation of main messages (in

the main text part) and information in the Appendix part is necessary. Before that, we need to ask: Do we need all the information, figures, and tables?

A good example for the main point of criticism is the Introduction. The paper is not a review article! So, we want to know already after 2 paragraphs: What are the gaps? What is the problem, we want to work on in this paper? What is the goal of the paper? How is the paper organized, and all this within 1.5-2 pages.

The authors may think about another section, after the introduction, with broader discussion, if necessary.

Some specific points.

You mention cloud formation and wrong forecast....on page 3, please be more specific... liquid water clouds?, ice clouds?, even precipitation....?

On page 4, you mention GALION... what is this?...the same as EARLINET? EARLINET is probably known and should be mentioned.

Sect. 2.1.1, I would skip this subsection, too long, keep it as short as possible. The reader has simly to accept what the retrieval products are.

Page 9, Fig.1, Jenoptik or Lufft...?

Again, keep section2 as a whole as short as possible, move parts into the Appendix... if necessary

Page 14, Fig 2 y-axis, attenuated backscatter, shouldn't that be Mm-1 sr-1?

Page 16, Fig.3: Everything is fine with the ceilometer data down to the ground here? No overlap-related bias, nothing? There is too much information in this figure. Is that all needed? Explanations are so small on printouts.

Section 3.2 up to Section 3.4.3, so many different topics... ! Do we need to present them all?

Section 3 has more than 20 pages (and the used font is rather small), it is too much!

All in all, the data sets are carefully analyzed. But the list of discussed topics is simply too long.