

## ***Interactive comment on “EARLINET Single Calculus Chain – technical Part 2: Calculation of optical products” by Ina Mattis et al.***

### **Anonymous Referee #3**

Received and published: 25 April 2016

The paper presents the methodology of the software tool ELDA as part of the EARLINET Single Calculus Chain. The description of this software is important as the software will be used by many different groups in the future. I recommend publication after consideration of a few mostly minor comments.

General comments:

The paper is overall a bit long and shortening in some parts of the paper seems possible and should be considered.

It might be worth thinking of changing Section 3 and Section 4 as the standard algorithms are applied on the smoothed, glued and cloud flagged data as far as I understood.

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How is the correctness of temporal averaging tested? What happens in cases of high temporal variability – can they be analyzed with ELDA? Does ELDA mark these analysis as analysis with insufficient temporal stability?

Are systematic uncertainties considered and calculated? And if yes, how is this done?

How do you separate the different uncertainties (retrieval, statistical, systematic)?

How do you determine calibration height and value?

Minor comments:

p.2, l. 6: '... instrument and hardware level ...' – do you really mean hardware?

p. 7, l. 10: Freudenthaler 2016

Section 4.3: Is the merging applied on the averaged profile or on each single profile before averaging?

p.21, l. 20ff: 'Here, the accuracy of SCC retrieved optical profiles will be tested ...' It is not clear on what this sentence refers to.

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Interactive comment on Atmos. Meas. Tech. Discuss., doi:10.5194/amt-2016-43, 2016.

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