

Interactive comment on “The RAMNI airborne lidar for cloud and aerosol research” by F. Cairo et al.

Anonymous Referee #1

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The paper in question has some very nice results and shows very interesting aspects of the hardware employed to render this type of experiment. As mentioned by other referee the paper lacks some language and typing revision which somehow impairs the paper quality, without a proper revision the paper might not be published. In my opinion this paper could be split into two, one devoted to the hardware and software analysis/processing itself, the other to the validation (case studies) results. Following that reasoning in some parts of the paper more details on the hardware could be given as in the Receiver and Transmitter sections specially describing in more details the optics employed in the system setup. In the error analysis on the other hand there is an little excess of information which should be somehow taken for granted considering the reader background and the results and formulas used could be invoked before in the paper as most of it is based on the paper by Russell et al. Concerning the data merging (gluing) some information should be given on the data sampling range in which

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this process is valid. Figure 1 tells you part of the story but there might other issues when this procedure should be carried on. Questions and Remarks:

- 1-One question I had is if the data are automatically or manually processed ?
- 2-In Fig 3. the color bar scale does not have a correspondence for the brown (?) patches in the plot.
- 3-Was not a sunphotometer available in the region for matching the AOD, instead of MODIS ?
- 4-Overall all plots should use the same height scale (0 - 6 km)
- 5- In equation 1 what is sdiv ?
- 6 - What expansion factor was used ?
- 7 - For the backscattering and extinction coefficients I would avoid using Mm^{-1} and $10^{-3} km^{-1}$. Either choose one or the other.

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