

## ***Interactive comment on “1064 nm Raman lidar for extinction and lidar ratio profiling: Cirrus case study” by Moritz Haarig et al.***

**Anonymous Referee #2**

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The paper by Haarig et al. presents for the first time extinction and lidar ratio measurements with a Raman lidar system simultaneously at 355 nm, 532 nm and 1064 nm. The newly applied measurements at 1064 nm are very valuable for retrieving optical and microphysical properties of clouds and Aerosols, and I am looking forward to see the first Raman measurements at 1064 nm for aerosol layers.

I recommend publication after answering some minor comments:

General questions:

What do you think is the required power of a lidar system to perform Raman measurements at 1064 nm?

Specific questions:

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p. 3, l. 21: You should add the reference to Fig. 3 already here.

Figure 3: Error bars for measurements at 355 nm and HSRL not visible. Error bars including the retrieval uncertainties (e.g. caused by the use of modeled temperature profiles) should be added.

p. 3, l. 24: Are the smaller values at 355 nm significant if you consider all measurement and retrieval uncertainties?

p. 3, l. 25: If the HSRL measurement is not discussed, they can be skipped in this paper.

p. 4, l. 12: What do you mean by ‘most trustworthy height range’?

p. 4, l. 13: Change ‘range from’ to ‘range of’

p. 4, l. 14: Change ‘range fo’ to ‘range of’

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