

Interactive comment on “Quality assessment of water cycle parameters in REMO by Radar-Lidar synergy” by B. Hennemuth et al.

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Quality assessment of water cycle parameters in REMO by Radar-Lidar synergy

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Response to comments of anonymous referee 2

A revised version of the paper has been written with the referee's suggestions regarded. The response to the particular items is listed below with page numbers or

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General comments

- Page S6697 2.para: The paper has been shortened. This was already done following specific comments of referee 1 (see: Response to comments of anonymous referee 1). The description of the cloud radar has also been shortened.
- p. S6698 1.para: Since referee 1 did already address the same question there are some more comments on the different resolution of model and observation included into sections 4.3 and 4.4. (see response no. 3 to 'General comments' of referee 1)
- p. S6698 2.para: The problem of the right separation of water clouds and rain or drizzle is addressed and discussed several times in the manuscript, namely section 2.2 Cloud radar, 2.8.2 Water content of clouds, 5.5 Water content of clouds: Liquid water content, and 6 Discussion and conclusions.

We acknowledge the suggestion to only compare cases with one single water cloud, but we do not see any improvement in this comparison concerning rain. The problem is the derivation of LWC only from radar reflectivity without any additional information about drizzle or rain. Therefore we decided to compare the statistics of **all** water clouds defined by the height interval of 1800 m to 3000 m, i.e. with a temperature larger than 2 °C. Further studies will also use the fall velocity derived from the Doppler spectra - as stated in the Section Discussion and conclusions.

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