

REPLY TO DR. NICO CIMINI

The authors are thankful to Dr. Nico Cimini for his useful comments. Hereby we reply to the posed questions:

- ***I feel that earlier work in the same direction (humidity profiling) but with different instruments is not properly acknowledged (e.g. Furumoto et al., 2003; Bianco et al., 2005). The authors may comment on the advantages offered by RL with respect to other instruments and approaches.***

The references and comments have been introduced in the manuscript, section 1.

- ***The authors should comment on how reasonable is their assumption of no correlation between measurements in different heights (page 5479).***

This point is extensively discussed in the 5th point of the Major Comments from reviewer #2.

- ***Section 3.3 would benefit from the information on the used elevation angles (page 5479). This information is given much later.***

As stated in the older version of the manuscript (sec. 2.2), the angular information of the MWR benefits the temperature profiling, but does not improve the water vapor profiling (Löhnert et al. 2009). Thus, the angular information was only introduced in sections 5 and 6, when retrieving temperature profiles. Now, these two sections have been removed from the current version of the manuscript, and consequently, the references to the angular information as well.