

REPLY TO DR. FELIX AMENT

The authors appreciate the comment by Dr. Felix Ament and his helpful remarks. Hereby we reply to the posed questions:

- ***Quantifying the lidar error is one of the most important ingredients of the scheme. Maybe you should explain this issue in more detail. In particular, why have you chosen a sharp cut-off the lidar profiles at low and high altitudes? What do you think of increasing the lidar uncertainty at these edges resulting in a smooth fadeout of lidar information in the retrieval?***

This point has been discussed in point number 4 of the reviewer's major remarks.

- ***The summarizing parts of the study give vertically averaged estimates of the error reduction by different approaches. Please explain what kind of vertical average you have applied – arithmetic average with height, density weighted, . . .?***

The point has been clarified at the end of section 4.2.3, also as a request from reviewer #2.