We would like to thank the editor for his time and also for his remarks, which we address here. We reproduce the comments individually (printed in italic) and write our response below:

On the side, I must say that the treatment of the radiometer stands out also in other ways. The radar and lidar are discussed and treated carefully, while the radiometer is handled less carefully.

In the retrieval, the radiometer is used to provide constraints only on the column-integrated amount of liquid water, while the radar and lidar data provide measurements at individual range gates. The treatment of the data is a reflection of the amount of information/constraints the data can deliver.

For example, the NWP humidity and temperature data going into the forward model will not be perfect. How does this affect the information provided by the radiometer. The same aspect will also cause correlated "noise", while your corresponding covariance matrix is diagonal. And is the radiometer really so well calibrated that those errors can be assumed to be zero (which your diagonal Sy imply)? It would help to have the thermal noise level included in Fig 3h.

The accuracy of NWP humidity (Q) and temperature (T), as well as the radiative transfer model and the measurement uncertainties affect the recovery of the observed T_B and consequently the retrieved liquid water path (LWP). Several studies have been devoted to investigate the accuracy of LWP retrieval using radiometer data; it is found to be about 15-30 g/m^2 (Marchand et al. 2003, Crewell & Löhnert 2003).

Random calibration errors of the radiometer are included in the diagonal elements of Sy. The diagonal Sy implies that the systematic calibration errors are zero (measurement errors of the different channels are assumed to be uncorrelated). Such assumption is not uncommon for retrievals using HATPRO data (e.g. Loehnert et al. 2004, 2009, Ebell et al. 2013).

Typically one can expect that thermal noise is around 0.1 K or less. In the data shown in Fig. 3h, the brightness temperature uncertainties are larger than this (around 0.5 K or more).

Is the radiometer measuring the same air volume (and with same horisontal resolution) as the active sensors?

It is technically and physically not possible to guarantee that all of the sensors measure the same air volume. What we can optimize is the representativeness of the measurement volumes. The field of view of the radiometer used in the ACCEPT campaign is approximately 3.5 degrees (half angle), corresponding to an increase of $\sim$ 120 m for each km. The radar and lidar are located 65 m and 20 m from the radiometer. Considering that our targets are located at $\sim$1 km, the air volumes measured by the three instruments certainly overlap. In addition, the measurements are averaged over a 30 second period for a single retrieval, which increases the representativeness. Also, the optical and microphysical properties of stratus clouds tend to be horizontally homogeneous with a correlation length scale up to about a km (Schäfer et al. 2017). All in all, it is unlikely with our set-up that the difference in the measured air volumes becomes a severe limitation.

The manuscript is already long, but I would in fact prefer to see some test inversions without the radiometer, to get a feeling for how important it is.

Omitting MWR in the retrieval using synthetic data hardly changes the overall results, which means that the radiometer fulfils a complementary rather than a necessary role. This is, however, not always the case with real data and real instruments that are less idealized. Here, the data quality of the other instruments and also from the radiosonde/NWP has to be considered. For example, inaccurate radar calibration potentially leads to an error in LWC and hence LWP. In this case, the LWP constraint from the radiometer can definitely be used as additional information to the retrieval, which should reduce the retrieval error. However, for this to be useful, one should make sure that the Q and T measurements, and the water vapor & oxygen absorption models can reasonably reproduce the observed brightness temperature at the frequencies where H_2O and O_2 are dominant. From the 14 frequency channels that we use for example, these frequencies correspond to the 5 lowest and 5 highest frequency channels. For the ACCEPT data, we use the model Q and T from the Regional Atmospheric and Climate Model RACMO and we find that the brightness temperatures at these frequencies are well reproduced. Therefore we include the radiometer data in the retrieval.

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