

**AMT-2021-433 Author's response to Associate Editor's comment on the revised manuscript.**

The authors would like to thank the associate editor for your suggestions for manuscript correction. Below we demonstrated the addressed issues and the relevant changes.

**1. The revised manuscript seems to address all of the reviewer's concerns. It would be good to clarify one item about the target plots. Since both CRMSE (as defined in Table 2) and  $\sigma_y$  are positive numbers, it seems like the x-axis cannot span the range -1:1. However, it seems like the convention with these plots is to plot the CRMSE/sigma as  $<0$  when the standard deviation of the reference data are larger than the standard deviation of the calibration model output (e.g., see Zimmerman et al Figure 7). It would be good to specify this convention in your manuscript.**

A. The convention on the sign of CRMSE/sigma has already been mentioned in the manuscript line 172-173 and line 176-177, Section 2.4.3. To specify this convention in figures with target plots, We added the following text to the caption of Figure 5 in newly revised manuscript:

“Note that by convention the sign of CRMSE/ $\sigma_y$  in target diagrams is determined by the sign of  $(\sigma_{\hat{y}} - \sigma_y)$ .”