

## ***Interactive comment on “Assessing the accuracy of microwave radiometers and radio acoustic sounding systems for wind energy applications” by Laura Bianco et al.***

### **Anonymous Referee #1**

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The manuscript AMT-2016-321 by Bianco et al. evaluates the accuracies of two MWRs and two RASSs with radiosonde soundings and 300-m meteorological tower observations based on the XPIA campaign data set. The authors show us the accuracy differences of temperature profiles of two identical MWRs and two different RASSs, which can benefit our better understanding on the measurement abilities of these instruments, especially on the random error between two identical MWRs. Another interesting point is the manuscript also evaluates the abilities of MWR and RASS for measuring temperature lapse rate, and the results may do good for wind energy applications. Overall, the manuscript is within the scope of the journal and it meets the scientific quality for AMT. Minor revisions should be considered by the authors before

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the manuscript gets accepted for publication on AMT.

Minor comments:

(1) p13, line261, the “that” in “... with a slightly lower MAE that the CU MWR” should be “than”.

(2) p13, line264-266, as shown in Fig. 3d, the temperature bias near the surface shows a negative value for NOAA MWR but a positive value for CU MWR, what’s the explanation?

(3) p13, line267, the “if” in “... (an example if” should be “of”.

(4) p13, line271, the “if” in “... an example if which is shown...” should be “of”.

(5) p19, line397-404, the temperature MAE shows a smaller value in unstable conditions compared to stable conditions, could the authors give an explanation or discussion on it?

(6) the authors should check typing errors carefully.

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