Replies to the comments from the Associate Editor:

Line 43: Replace 'IR instrument' with 'the IR instrument'.
Line 60: Replace 'in the thermodynamic profiling' with 'in thermodynamic profiling'.
Line 65: Replace 'atmosphere' with 'the atmosphere'.
Line 89: Replace 'are or will likely soon become' with 'are, or will likely soon, become'.
Lines 96-97: Replace 'height dependent' with 'height-dependent'.
Lines 122-123: Swap the order of the citations.
Lines 162, 542, 571: Although the terminology 'co-added' may be common in some parts of the lidar community, this manuscript is intended for a wider audience that is unlikely to have come across this term. I recommend either explaining this term in the first usage, or using a term such as 'photon accumulation'.
Line 178: Replace 'have' with 'has'.
Line 190: Replace 'this ceilometer is used' with 'a ceilometer used'.
Line 220: Remove 'the'.
Line 227: Replace 'a priori' with 'an a priori'.
Line 231: Replace 'satisfies' with 'satisfy'.
Line 249: Replace 'on' with 'of'.
Line 273: Replace 'the Eq 1,' with 'Eq 1,'.
Line 293: Replace 'are using' with 'use'.
Line 297: Replace 'the SGP' with 'the'.
Line 333: Replace 'like' with 'similar to'.
Line 358: Remove 'channels'.
Line 409: Replace 'the' with 'a'.
Line 456: Replace 'uses' with 'use'.
Line 459: Replace 'illustrate the' with 'illustrate that the'.
Lines 459-467 and Figs 3 and 4: You use MWRRe and MWRe-only in the text and in the figure legends. I presume these should be MWRzo and MWRzo-only?
Line 480: Replace 'used a single elevation angle to the' with either 'included one elevation angle for' or 'included one additional elevation angle for'.
Line 481: Replace 'increase' with 'increase of'.

We agreed with every of these suggestions, and modified the text as suggested. Note that we replaced figures 3 and figure 4 with images that had “MWRzo” in the keys (instead of the “MWRe” that was accidentally used before).