

Reviewer #2

1. p9, Eq.1: Adding " $\Delta\delta_{\text{corr}}="$  (or similar) in front of the equation would make it easier to understand that the equation represents the correction term.

Thanks for your suggestion, we have added the " $\Delta\delta_{\text{corr}}="$  in front of equation 1.

2. p11, 359-361: "When the rain events during which the single column is affected by the surrounding air, these assumptions become invalid." Do you mean: "If the vertical column is affected by lateral entrainment of surrounding air, these assumptions become invalid. " ?

Yes, you are right. Following your suggestion, we have revised this sentence to "If the vertical column is affected by lateral entrainment of surrounding air, these assumptions become invalid."

3. p15, 472: "ground surface" -> use either "ground" or "surface".

Thanks for your suggestion, we have revised this sentence to "Therefore, they are less affected by the evaporation and equilibration processes on their falling way toward the ground"

4. p15, 479: instead of "rain/snow" -> "hydrometeor"

Thanks for your suggestion, we have changed "rain/snow" into "hydrometeor".

5. p15, 483: instead of "liquid" -> "water"

Thanks for your suggestion, we have changed "liquid" into "water".

6. p23, 700-702: "Considering the assumption that the surface water vapor is (moist) adiabatically connected to the cloud-base water vapor, the validation of the two methods is for frontal precipitation or convective precipitation."

I don't agree that a vertical connection between the cloud base and the ground is generally present for frontal precipitation, especially for precipitation along a warm front. Due to the forward-slanted vertical orientation of a warm front, upon arrival of the warm front, precipitation can fall into the prefrontal air that is not connected to moisture in the cloud. Due to the importance of lateral movement during frontal precipitation, it is possible that surface and cloud-based moisture are not connected.

Yes, you are right. After considering the weather condition you mentioned, we have revised the sentence to "Considering the assumption that the surface water vapor is (moist) adiabatically connected to the cloud-base water vapor, the validation of the two methods is for specific weather conditions, such as convective precipitation."