Title:

Further evidence for CCN aerosol concentrations determining the height of warm rain and ice initiation in convective clouds over the Amazon basin

Date: Aug 2 2017

Rev. 1

Decision: rejection

General comments

This is a second round of review process for me. I don't want to review this paper again if further corrections are needed. I feel that this paper needs to be better organized and data analysis should be done properly. I still see that my main concerns are not corrected properly, and text is not improved. Authors insist to keep text same as before after making some minor corrections. I will not go over again my points here but emphasized some points below:

Mainly figures do not represent what is said in the text.

Data analysis does not reflect proper averaging times.

Comparisons with adiabatic calculations were not discussed properly.

Title says: Further evidence for CCN aerosol concentrations determining the height of warm rain and ice initiation in convective clouds over the Amazon basin.

I don't believe that only CCN determines height of warm rain and ice initiation processes…. This is a misleading title, in fact IN or both CCN and IN at high levels plays an important role and never mentioned. How can adiabatic calculations be made for ref for comparisons or LWC, and used for comparisons if non-adiabatic terms are clearly dominant in a convective process at the certain phases of the storm??? At least 10 times adiabatic values are used for comparisons, in fact, convective clouds may deviate significantly from an adiabatic assumption.

Figures asked to be generated or removed are not included or deleted.

Fig. 1b is conceptually wrong and not true, if this is the case, what argument you have in the text. I feel this is pointed out previously.

Fits are provided may not represent data points distribution properly.

Icing detector and RH plots as indicated before are needed, without them you cant really say particles as droplets or ice crystals when particles are not falling above.

Images do not show statistically significant data points for droplets or rains. How do you know they are liquid?

Some text related to CDP and/or CIP probe are not correct.

How collisions and coalescence processes affect cloud macro and micro-properties, how about turbulence?

Conclusions are not provided properly and explained, this was mentioned in my previous review. I like to see not only Na characteristics affecting cloud properties but other parameters such as updrafts and mixing as well radiative processes. Conclusions provided are like for a conference paper.

In addition to my above points, as well as based on my previous points and responses received, I will not suggest this work for a publication in ACP.