

Response to editor's comments

Thank editor very much. Our responses to each comment are presented below in blue. Revisions in the manuscript are marked with same color.

1) please check the new Figures 5 and 6 for the following reason:

when comparing the new with the old Figures, the only difference that I can see is the color code. This is strange since you switched from linear to logarithmic color code. The reason to do that was to make the data points below about -50C (shown in Figure 8) visible, but these points are still not seen. The color at the low temperatures is blue, which means 1 data point in each data interval. This is not in agreement with the data numbers noted in Figure 8 at the lower temperatures.

Initially, these data were not shown in figures 5 and 6, and we took it for granted that the values were too low to be distinguished from the background (dark blue). Sorry for our precipitance. According to editor's suggest, we checked the data and program codes of figures 5 and 6. In the data source, there are data with the values greater than 10 in the low temperature region. After checking the imaging codes, it is found that in the process of pseudo-data with $\text{dBZ} < -45$ (threshold of ice cloud), some data with relatively low logarithm value are also wrongly assigned with zero, resulting in incomplete display using invalid colormap projection. We are very sorry for that. The revised figures 5 and 6 should be correct.

2) Figure 6, caption: it is still noted that the number of the counts is divided by 5000, I don't think that is the case.

Sorry. "divided by 5000" should be deleted.

3) Point 6) of the last review, new lines 334-335: new text inserted in the paper: 'The reason is that at these altitudes both in situ origin and liquid origin cirrus appear, whereas at colder temperatures only in situ origin cirrus exist.' Since this is one of the findings of Krämer et al. (2020), to my feeling this paper could be cited.

Sorry. This reference has been cited.