Review of revision “Differences in microphysical properties of cirrus at high and mid-latitudes”, EGUsphere 2023-374, by Castro, Jurkat-Witschas, Afchine, Grewe, Hahn, Kirschler, Kramer, Lucke, Spelten, Wernli, Zoger, and Voigt.

Overall, I like your responses to my comments. I have a few points below.

The suggestion to use 10 second averages is because low concentrations of small particles may not be included in particle size distribution representations. 0.025 cm-3 (one particle sampled by the CDP is 25/liter. That’s typically the total concentration of cirrus ice particles. Perhaps you could do a simple 10 second averaging to see what the effect would be. I do recognize that the path length of this 10 second sample may be 2 km but, that’s okay for this exercise.

Liquid origin. If your suggestion that “liquid origin cirrus” is reasonable, you should plot out the aircraft vertical velocities during the penetrations. Do you see updrafts >0.25 m/s approximately that could be used to check your hypothesis about liquid origin cirrus.

Your responses to Darrel Baumgardner’s review are good. We’ll let him comment on that.

Figure 8. Could you add another panel (d) that shows the relationship between extinction and ice water content for the different combinations.