Response to Referee #3

This is a fairly well written description of a system for studying the growth of ice crystals in the atmosphere. How crystals grow and what determines their distribution of habit and size is a very important question for meteorology, and this paper represents significant progress in answering that question. I do have some comments on the paper however. If these are adequately dealt with, this paper definitely should proceed to publication in the journal.

Our Reply: We thank the reviewer for their helpful suggestions. Here are the changes made to the revised manuscript:

Page 2 line 10; there is the statement "Neither effect typically occurs for cloud crystals". This needs some substantiation, at least in regard to the proximity of other growing crystals. Could the authors provide an estimate of the concentration of ice nuclei in a typical cloud?

Our Reply: We have clarified the text with references to typical number concentrations in ice clouds.

Section 2. This section purports to list several issues, and how they are solved in the CC2 design. The latter part of this aim seems to have been forgotten by the time point 5 is reached - there is plenty of discussion of the issues associated with capillaries interacting with crystal faces or vertices, but this is not tied to the CC2 design. This section would also be easier to follow if it were organized with subsections, rather than a list.

Our Reply: We have clarified the purpose of this section and added subsection headings in bold to increase the readability of this section.

Section 3. Snowmax is apparently a trademark? A reference to a supplier (or a recipe when the name is first used) should be provided.

Our Reply: We have added a footnote to the Snomax supplier. The recipe for the Snomax solution used is discussed in Wood et al. 2002 and we have included this reference.

Reference list; the two references to Swanson and Nelson (2019 a,b) are quite inadequate!

Our Reply: This manuscript is one of the first describing experiments done in the new CC2 instrument. Unfortunately all manuscripts describing the results from this work are not yet submitted for publication. In keeping with convention we have added “Unpublished Manuscript” to these references.

Another very minor point is in the opening sentence of the second paragraph (of section 1) the authors do seem to like the work "likely" overmuch.

Our Reply: Indeed annoying…. We have rewritten the sentence.