

Response to Authors Response to Review of “The Impact of Cloud Microphysics and Ice Nucleation on Southern Ocean Clouds Assessed with Single Column Modeling and Instrument Simulators”

by Andrew Gettelman, Richard Forbes, Roger Marchand, Chih-Chieh Chen, and Mark Fielding

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Recommendations: accepted as is

1 General Comments

The authors have responded to my review and made a number of changes to the manuscript which has improved the quality of
5 the work and satisfied the queries that I had made.

In particular

- the more explicit guidance on 2M schemes which has now been added helps bring out the important conclusions of the work
- additionally commentary on the utility of single column modelling as a tool and forerunner to full 3D simulations has
10 been added.
- the summary and conclusions are now much clearer following a rework which has aided understanding.
- the figures were redrafted and combined where appropriate which has added clarity and readability to the paper.
- the particular importance of supercooled liquid water and the results of process rate analysis now stand out more clearly.
- A table of abbreviations of process rates has been added.
- 15 – the significance and importance of varying CCN and IN concentrations is now more explicit following addition to a reference to field studies in the region.
- various typographical errors and minor changes to formatting have improved the manuscript