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Interactive comment on “Precipitation of salts in freezing seawater and ozone depletion events: a status report” by S. Morin et al.

S. Morin et al.

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We thank L. Kaleschke for emphasizing the importance of the discovery by Dieckmann et al. (2008), who unambiguously showed that ikaite crystals were found in Antarctic brine. This finding has led to large changes in the scope and the conclusions of the revised paper.

As stated in the revised manuscript, the discovery that ikaite was found in Antarctic brines does not necessarily imply that this is the carbonate mineral which always precipitates in freezing seawater. The dichotomy between calcite and ikaite may in particular be driven by the abundance of calcite precipitation inhibitors in sea-water, the distribution of which is unknown for the most part.

Therefore prudence is required and categorical statements should be avoided in a

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context where key experimental data are still lacking. We hope our revised manuscript will provide the basis for setting up new experiments aiming at resolving the issues raised, in a quantitative manner.

References

Dieckmann, G. S., Nehrke, G., Papadimitriou, S., Göttlicher, J., Steininger, R., Kennedy, H., Wolf-Gladrow, D., and Thomas, D. N.: Calcium carbonate as ikaite crystals in Antarctic sea ice, *Geophys. Res. Lett.*, 35, L08501, 10.1029/2008GL033540, 2008.

Interactive comment on *Atmos. Chem. Phys. Discuss.*, 8, 9035, 2008.

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