



Interactive
Comment

Interactive comment on “The Arctic Summer Cloud-Ocean Study (ASCOS): overview and experimental design” by M. Tjernström et al.

Anonymous Referee #2

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The 30+ authors present a long paper with plenty of tables and photographs detailing the experimental set up, motivation and some highlights of the ASCOS project. To quote the first line of the Conclusions: “This paper discusses the scientific rationale, planning, implementation of and some important results from ASCOS. . .”. The scientific rationale sections are interesting and a useful summary of many of the key issues for Arctic clouds, aerosols, boundary layers and climate. The (retrospective) motivation for ASCOS is clear and compelling. The experimental design sections are exhaustive (and somewhat exhausting to read). To be honest these sections were very much a technical report, with around a dozen tables of instruments, etc, and associated sections describing the measurements made, protocols in place and so on. It is probably useful to have this information in the open literature and to be fair it is mainly in an

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Appendix here. The most interesting sections scientifically were section 7, on some highlights of the project and section 8 a discussion and conclusions section. This was a useful summary of the key findings – pointing in the direction of the key primary references which have been published in the last few years. The Conclusions too are useful, pointing out where key questions have not been answered. In short, this is not a standard paper. It is a mixture of a dry technical document and some authoritative review and synthesis material. I suspect both components will be of great use to the community and I can see the merits of publishing them as one paper. Overall, I have only a few minor spelling and grammatical comments, as detailed below. Hence I recommend publication once these are addressed.

Page 13554, line 14, suggest delete “. We also need” replace with “and” P13556, line 7, rephrase, “particle source of particles” ??? P13572, line 23, “was through that a” doesn’t make sense

P13574, line 17, “the clouds, . . ., vanish” (not vanishes) Line 28, “compare” not compares

Fig 1 I guess the solid blue line is sea ice at exit time, dashed at entry, need to state this. Only dashed is in caption at present. Fig 2 reproduced very small in my pdf print out – text unreadable. I assume this will be ok in final formatting. Figs 15-18 were also too small.

Interactive comment on Atmos. Chem. Phys. Discuss., 13, 13541, 2013.

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