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Interactive comment on “Ultrafine sea spray aerosol over the south eastern Pacific: open-ocean contributions to marine boundary layer CCN” by R. Blot et al.

Anonymous Referee #1

Received and published: 21 March 2013

This paper addresses the issue of the source of CCN over the “clean” marine boundary layer and how to parameterize this source in global models. The paper is very thorough and methodically takes the reader through the steps needed to show their conclusions (data quality, data stratification, data comparisons, processes controlling concentrations). I recommend publication with minor revisions to address the questions below:

The paper assumes two sources of CCN and that the particles in the MBL are an external mixture of these two sources. Are there any data from the C-130 that show this external mixture? What can be said about the particles smaller than CCN size? Are these mostly SSA? Are these cores on which CCN particles grow?

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Page 3280 Line 11: organic aerosol

Page 3280 Line 12: what if you don't limit the org concentration? What if this org is part of the SSA?

Page 3281 Line 8: dimethyl sulfide

Page 3282 Line 2: there instead of their

Page 3282 Line 22: what do you mean here by sea-salts. Isn't the controversy whether the sub 0.1 um aerosols are inorganic or organic?

Page 3283 Line 23: remain instead of remains

Page 3285 Line 6: two pollution survey missions along the coast of. . .

Page 3286 Line 7: The non-POC missions. . .

Page 3288 Line 16: Data were

Page 3288 Line 17: Do you mean >.087 and <0.4?

Page 3288 Line 20: Flight not flights

Page 3295 Line 4: becomes

Page 3295 Line 12: these DMS data

Page 3300 Line 6: these results imply

Page 3301 Line 6: that there is no obvious

Figure 4: total number of data points

Figure 11: there are no triangles

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Interactive comment on *Atmos. Chem. Phys. Discuss.*, 13, 3279, 2013.

