

Interactive comment on “Open ocean DMS air/sea fluxes over the eastern South Pacific Ocean” by C. A. Marandino et al.

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The authors describe eddy correlation measurements of DMS fluxes during a Knorr cruise in the SE Pacific, well away from South American coastal waters. They also measured sea water DMS concentrations, using an equilibrator approach. In both atmospheric and water cases, they chose to add isotopically labeled standard after all the sampling apparatus and just before entry into the APIMS, so the cal gas could not have identified nor corrected for any inlet or equilibrator problems. An example is the biofouling they observed in productive waters.

The fluxes and exchange velocities they report are very similar to those reported in earlier papers. The variation of k with wind speed was virtually linear. One of the real strengths of the paper is their common plots of binned data from all previous EC mea-

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surements of kDMS. This comparison suggests a non-Schmidt number temperature dependence, which supports the SOLAS call for flux measurements in a wide variety of regions and conditions. They also make favorable comparisons with dual-tracer fluxes and models. The fact that the COARE model can be made to match their k vs U slope, but at the expense of a low-wind speed offset, argues convincingly that an improvement is needed in the model's microlayer physics.

My only negative comment concerns significant figures, at the start of 3.2: It makes no sense to say a flux is 3.87917 when the error bounds are 2.5 and 5.5. One digit after the decimal would be plenty.

This is a well-done paper that deserves rapid publication.

Barry Huebert

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