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Atmospheric Measurement Techniques Discussions

Interactive comment on "Measurements of Ozone Deposition to a Coastal Sea by Eddy Covariance" *by* David C. Loades et al.

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This paper is a description and analysis of observations of turbulent flux and deposition velocity from a coastal tower (Penlee Pt on S coast of the UK). A footprint analysis is used to separate situations with overland vs overwater deposition. The paper is well written, thoroughly referenced, and provides some interesting discussion in the balance of turbulent mixing theory vs chemical reactions in ozone deposition to the ocean. I found the attention to experimental/instrumental detail to be excellent with considerations of despiking, detrending, line time delay, and uncertainty due to sampling variability. The discussion of the Fairall et al. 1-layer model vs Luhar et al. 2-layer model and the sensitivities to chemistry are illuminating. Clearly, work is needed to reach closure on ozone. From a turbulent flux observation point of view, the paper is

very good technically and I think we can be confident in the results.

Here are a few moderately trivial comments. *Linear detrending is often followed by time-tapering, e.g., by a Hamming window. Was this done? *For fixed tower sites, a planar fit (Wilczak et al) or some other triple-rotation method is often used. Perhaps this should be investigated, particularly because it could be an issue for small fluxes. *Suggest figure 7 be rescaled with a lower limit of at least 10ˆ-9. Two or three very small outliers are compressing the real data.

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