

Interactive comment on “A Relaxed Eddy Accumulation (REA)-GC/MS system for the determination of halocarbon fluxes” by K. E. Hornsby et al.

Anonymous Referee #1

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The manuscript presents a well-designed relaxed eddy accumulation system for use with solid absorbents as sample reservoirs. Appropriate and adequate laboratory testing and simulations of the system were executed and described in adequate detail. The system appears to be suitable for measuring fluxes in landscapes amenable to direct flux measurement techniques.

The testing of the system to measure a real flux was made at Mace Head, Ireland, at the coastal atmospheric observatory. Although the site may have been selected for other reasons (as part of a larger experiment, whose object was not necessarily focused on halogen fluxes), the site was not really suitable for REA flux measurements

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for several reasons: the surface is irregular topography (the observatory, where measurements were made) sits some 10 m above sea level; the REA was 8 m up on the observatory tower. Some discussion of effect of the non-uniform, non-horizontal surface on the flux measurement would be appropriate.

The manuscript includes a discussion of the flux footprint in terms of extent and a figure showing roughly where macroalgae are distributed. Additional discussion regarding the non-uniform distribution would be important.

The source, presumably macroalgae, was not uniformly distributed, rather deposited somewhat randomly by waves. It is also not clear that the ocean itself might not be a source of the alkyl halides measured, since these are cited in several of the references as seawater constituents (this might help somewhat in arguments regarding the uniformity of the source, if seawater were the major contributor). Please include some discussion of why macroalgae, rather than sea water, was considered the main source and how was its irregular distribution may have affected flux measurements.

Interactive comment on Atmos. Meas. Tech. Discuss., 2, 951, 2009.

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