

Interactive comment on “Observed response of the marine atmospheric boundary layer to the Southern Ocean fronts during the IPY BGH 2008 cruise” by C. Messenger et al.

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The general comments made by referee #2 are relevant and are really appreciated by the authors because there are useful for a forthcoming major revision. The suggestion about the paper organization is welcomed and will be followed. The paper will be then organized to:

(i) Select and present a case of frontal influence with eddy M, a case of diurnal cycle and inference on MABL structure and a case when the changes across fronts are masked by synoptic variability. Moreover, the title of the paper will change in order to better fit the actual topics addressed.

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(ii) Present the all measurements and the information that could interest a scientific community beyond the scope of this paper. The figures 3 and 4 will still contain all the vertical profiles. Indeed, as mentioned by reviewers 2 and 3, the information about this region is rare and deserves to be communicated to a large community, beyond the one working on the MABL and the scope of this paper. However, there is a visibility problem with the Figures 3 and 4 as currently stated. Authors will split them to increase their sizes. Some zooms of the lower MABL profiles will be provided for the specific cases discussed as hereafter presented.

In particular the stability parameter will be quantitatively presented accordingly to the relative wind direction and the heat fluxes variability.

Miscellaneous: - Figure 2 refers to skin SST (will be mentioned in the revised version)
- The conclusion will be focused on the scope - The LHF magnitude outside and inside the M eddy will be provided - The paper will be corrected by a native English speaker

Interactive comment on Ocean Sci. Discuss., 9, 1387, 2012.

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