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## ***Interactive comment on “Turbulent structure and scaling of the inertial subrange in a stratocumulus-topped boundary layer observed by a Doppler lidar” by J. Tonttila et al.***

**G. Feingold (Editor)**

graham.feingold@noaa.gov

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Colleagues: Based on your responses to the reviewers, I do recommend submitting a revised manuscript that seriously addresses the Reviewers' comments.

I do have a couple of points to add.

1) While I understand that you did not have any thermodynamic profiles at Mace Head, are you also saying that you do not have surface temperature and vapour measurements? In order to calculate the lifting condensation level and a decoupling index (Reviewers 1 and 2) you can use surface meteorological measurements. A quick look

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at the Mace Head website <http://www.macehead.org/> suggests that surface meteorology is available (?) If indeed it is, please add analysis of a decoupling index to your analysis. I think this will help a great deal with strengthening/clarifying your case.

2) Regarding figures, I concur with the sentiment that many figures are very small and understand you will take care of this in a revised manuscript. I think it would also be valuable to have a zoom in of the boundary layer clouds as seen by the radar (Figure 3). I understand the desire to show deeper clouds earlier on but since the focus of this work is on the boundary layer, a cross section with a top of  $\sim 2$  km would reveal detail in the cloud structure that is not visible in Figure 3. While Figure 6 shows the "location of the clouds" this is different from the actual reflectivity, which has information on whether a cloud is likely drizzling or not. This raises the question of what the black shading in Figure 6 represents. Do you use a threshold radar reflectivity to indicate the location of cloud water only, or is it the outline of the reflectivity (mask)? The text indicates that a ceilometer is used for cloud base so I suspect the mask does not include drizzle. In any case, please clarify. The cloud masks, together with a zoomed in version of Figure 3 will be complementary.

Sincerely, Graham Feingold

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Interactive comment on Atmos. Chem. Phys. Discuss., 14, 24119, 2014.

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