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Interactive comment on "Eddy covariance methane measurements at a Ponderosa pine plantation in California" *by* C. J. P. P. Smeets et al.

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This manuscript reports results on EC CH4 flux measurements performed by using Los Gatos Fast Methane Analyzer. The performance of the EC system and several flux corrections are discussed. The high frequency underestimation is evaluated by using measured co-spectra of different scalars, appropriate transfer functions and assuming similarity between the scalars.

My short comment concerns the spectral analysis presented in the paper. The Figure 1 shows the ensemble average of 87 normalized co-spectra Cwx of different scalar quantities x as a function of natural frequency f. In order to reduce the uncertainty the authors used only daytime runs with high fluxes, corresponding to slightly unstable conditions (-0.5$<$(z-d)/L$<$0) (pp.5216, Line 9).

However,

1) the ensemble average should account for different mean wind velocity U between runs and the correct way to present such cospectra is as a function of the normalized frequency n=f (z-d)/U. This would be irrelevant only if U does not change between runs, but the author does not mention it in the Figure caption.

2) Moreover it is not clear what is the universal Kaimal curve they plotted in Figure 1. They refer to Kaimal (1973), who however presents spectral curves in stable conditions.

3)Finally it is not clear why the Kaimal curve and the measured cospectra are arbitrarily offset, if the scope of the universal curve is to act as a reference.

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