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Interactive comment on "EUROSPEC: at the interface between remote sensing and ecosystem CO_2 flux measurements in Europe" *by* A. Porcar-Castell et al.

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The authors nicely work out the crucial role that in situ measurements play in upscaling by linking between eddy covariance flux tower footprints and remote sensing. However, how to achieve this link receives much less attention in the paper (alltogether around 20 lines on p. 13093-13094), compared to technical, technological and deployment issues of in situ measurements. The major conclusion I draw from this section is that the present approach of in situ flux tower sampling actually is unable to provide this link due to the mismatch in footprints and that new tools are required to establish this link. Does that mean that all previous and ongoing measurements on flux tow-

ers where in situ measurements were made on just a small fraction of the flux tower footprint are useless in providing this link except for the most homogeneous sites? Is there a way/are there examples of quantifying the associated uncertainty? The authors push UAVs as the 'silver bullet' to resolve the footprint mismatch dilemma. However, UAVs share some of the problems of satellite remote sensing, that is typically measurements from UAVs will provide data with poor temporal resolution compared to in situ continuous measurements. How to link between periodic UAV and continuous in situ measurements and further to the eddy covariance flux footprint?

In summary, I think that the issue of linking between in situ spectral and eddy covariance flux measurements, which is one of the central questions of EUROSPEC, provides much more which could and should be discussed and encourage the authors to think about how to expand the corresponding section in the paper. Ideally, this would be shown on the basis of some case study, but a conceptual treament of the necessary steps would also be useful.

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