



Average length extension and its effects on the eddy-covariance measurements during the LITFASS-2003 experiment

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Recently it has been found that the low frequency part of the turbulence spectrum has a significant effect to the energy balance closure problem. In this study, a modified ogive analysis has been developed and applied to the low frequency data from selected measuring stations of the LITFASS-2003 experiment. The aim of this analysis is to investigate whether the extension of the averaging time can really solve the energy balance closure problem. The effect of the low frequency part of the turbulence spectrum over different surfaces was also considered, as each selected station represents a different land use type. It was found that the extension of the averaging time (longer than 30 minutes) can improve energy balance closure for some sites but does not solve this problem for eddy covariance measurements in the surface layer in general.