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Peculiarities in comparing Eddy covariance measurements with Large Eddy simulations

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For several days in June 2015 (experiment MelCol-2015), measurements (eddy covariance measurements, USA_METEK, LICOR) and simulations (large eddy simulations ASAM) are compared.
The question was, how daily courses of turbulent fluxes are agree between these methods.
For this the system of the coordinates of the EC measurements had to be adapted to the structure of the LES.
The results show a more similarity between measurement and simulation for the daily course of the sensible and latent heat flow. Nevertheless the LES underestimates the amount of turbulent fluxes. The daily course of the friction velocity is well reflected. However, the components of the turbulent momentum fluxes are only similar for selected situations. Especially the sign of the covariance does not allow any comparison between measurement and simulation.

MelCol-2015: Melpitz Column Experiment 2105 //www.tropos.de/en/current-issues/campaigns/blogs-and-reports/melpitz-column-2015/
M. Jähn, O. Knoth, M. König, U. Vogelsberg: ASAM v2.7: a compressible atmospheric model with a Cartesian cut cell approach, doi:10.5194/gmd-8-317-2015