



Some aspects of the energy balance closure problem

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The so-called energy balance closure problem is widely accepted. Various reasons are discussed in the literature, which can not completely close the energy balance up to now. This contribution focuses on the reasons in connection with the time scale of the measurements, which have not been very intensively investigated so far. Therefore, a data set of the LITFASS-2003 experiment held in May/June 2003 at the boundary layer measuring field of the German Meteorological Service near Lindenberg was analyzed. The following problems are in the focus:

- The effect of the energy in larger time scales.
- The effect of the time shift between different fluxes.
- The effect of coherent structures on the fluxes.
- The effects of energy storage in the soil within short time scales.

None of these effects can solve the problem, but during the diurnal cycle and different meteorological periods different reasons become important for the closure of the energy balance.