



Energy fluxes in a Mediterranean savanna ecosystem during the transition from wet to dry season

L. Siebicke (1), T. Markkanen (1), J. Tenhunen (1), T. Foken (1)

(1) Universität Bayreuth (lukas.siebicke@uni-bayreuth.de)

During the MITRÆX-2006 experiment, turbulent fluxes of sensible and latent heat as well as CO₂ were studied in a "Montado" savanna ecosystem in central Portugal. Eddy covariance flux measurements were set up in a savanna clearing to investigate the grass component to compliment existing long term above canopy measurements of the nearby MITRA II FLUXNET station. In addition to a CSAT-3 sonic anemometer and LICOR-7500 infrared gas analyser, radiation instruments were installed for short wave (CM21) and longwave (Eppley-PIR) components along with soil heat flux measurements. Theoretical assumptions of the eddy covariance method were tested in an extensive quality assessment. Combining quality results with forward Lagrangian footprint modelling highlighted spatial structures in data quality, some of which are interpreted as terrain effects, others as related to instrument set up. Net ecosystem exchange (*NEE*) of the savanna and grass component was used to model assimilation (*GPP*) and ecosystem respiration (*R_{eco}*). The comparison of turbulent fluxes from savanna and grass components suggest a frequent decoupling and large spatial variability of fluxes in the savanna ecosystem.