



## **The closure of the energy balance in SVAT schemas**

**D. Kracher**, and T. Foken

University of Bayreuth, Bayreuth (thomas.foken@uni-bayreuth.de)

For the LITFASS-2003 experiment, conducted during May and June of 2003 in the region of the Meteorological Observatory Lindenberg of the German Meteorological Service, the net radiation and flux measurements for maize and tritikale fields were compared with the outputs of SVAT models. For this investigation 1D versions of the SVAT tool of the mesoscale models LM (Lokalmodel), REMO and SEWAB were used (Dr. Mengelkamp and his group from the GKSS Research Centre is acknowledged for the preparation of the models and the parameter files). The aim of the investigation was to clarify which modelled fluxes are increased due to the residual of the energy balance closure. The SVAT schema of SEWAB closes the energy balance with the surface temperature; therefore, all fluxes are increased. For both of the other models a good agreement of the turbulent fluxes (sum of sensible and latent heat flux) was found, but not of the Bowen ratio. The latent heat flux was underestimated by the model. The ground heat flux is significantly overestimated due to the residual of the energy balance closure. The results of this investigation are limited, because even small changes of the parameter set of the models can influence the results significantly.