



## **Directional radiative measurements on forest, hay and young maize during the EAGLE2006 field campaign**

**J. Timmermans** (1), C. van der Tol (1), W. Verhoef (1), L. Jia (2) and Z. Su (1)

(1) International Institute for Geo-Information Science and Earth Observation, Enschede, The Netherlands, (2) ALTErrA Institute, Wageningen University, Wageningen, the Netherlands  
(j.timmermans@itc.nl / +31 (0)53 4874327)

Aggregation effects within a single pixel cause large errors in the calculation of the interactions of heat, water vapor and carbon fluxes between land and atmosphere. Directional data enables the user to measure below the pixel-scale, reducing these aggregation effects. Before directional remote sensing can be used for calculating the evapotranspiration, multi-angular ground measurements need to be performed.

In the summer of 2006 the International Institute for Geo-Information Science and Earth Observation (ITC) organized, in the framework of the EAGLE and EO71-SRON projects, the EAGLE2006 field campaign in the Netherlands. The main objective of this field work was to acquire multi-angular, multi-sensor data for the advancement of understanding in radiative and turbulent interactions processes, and the validation of physical parameters derived from satellite data. The field campaign lasted from the 8 June till 2 July 2006, with a focus on the period 8 June till 18 June.

The measurements were performed in three field sites that are situated in the central part of the Netherlands, about 150km apart. Each of the sites is already used for measurements, therefore guaranteeing continuous dataflow. The measurements were performed on grassland, forest and corn with various sensors. The measurements consisted of ground-experiments, air-borne imagery and space-borne imagery.

In this poster the ground-based directional radiative measurements are discussed. The directional measurements consist of goniometric measurements, from the optical to thermal domain, on maize and hay, and directional transects on forest from a tower in the optical domain. The net-radiation, measured by the standard meteorological instruments at the two sites, will be used as a comparison base between the measurements.