

REFLEX 2012 Regional Experiments For Land-atmosphere Exchanges

PREFACE TO THE SPECIAL SECTION

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This special issue reports some of the scientific findings of the “Regional Experiments For Land-atmosphere Exchanges” (REFLEX 2012), a training workshop supported by the European Facility for Airborne Research (EUFAR) under the European Commission seventh Framework Programme (FP7) and the “Spectral Sampling Tools for Vegetation Biophysical Parameters and Flux Measurements in Europe” (EUROSPEC) action under the intergovernmental framework for European Cooperation in Science and Technology (COST). REFLEX 2012 took place in Albacete and Barrax, Spain from 18 to 28 July 2012. The theme of the training workshop was the organizing and conducting of a hyper-spectral multi-angular airborne campaign for multi-scale (“leaf-to-ecosystem”) land-atmosphere exchange research.

Timmermans *et al.* (a) provides an overview of the REFLEX 2012 campaign, describing the objectives and the technical details of the campaign. The measurements and observations included multi-temporal, multi-

directional, multi-spectral, and multi-spatial space-borne and airborne observations, measurements of the local meteorological variables, energy fluxes, soil temperature and soil moisture profiles, surface temperature, as well as canopy structure and leaf-level biophysical properties. Multispectral and thermo-dynamical monitoring were conducted at selected sites.

The details of collected data by the Airborne Hyperspectral Scanner (AHS) and Compact Airborne Spectrographic Imager (CASI) sensors as well their processing methods and results are described by de Miguel *et al.* Calleja *et al.* reported relating the hyperspectral airborne data to ground measurements, and van der Tol *et al.* provided an analysis of turbulent heat fluxes and the energy balance during the REFLEX 2012 campaign.

Andreu *et al.* studied the influence of thermal components for dual source energy flux estimates over a drip-irrigated vineyard in the Barrax area and Timmermans *et al.* (b) illustrated the use of land surface temperature with a simple approach for monitoring evapotranspiration, which are complemented by a study by Corbari *et al.* in intercomparison of surface energy fluxes estimates by two different models over the heterogeneous REFLEX 2012 site.

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