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## The MEditerranean ecosystem L-Band characterisation EXperiment (MELBEX) over natural shrubs

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The MEditerranean ecosystem L-Band characterisation EXperiment (MELBEX) was carried out near the Valencia Anchor Station area (Caudete de las Fuentes, Valencia, Spain) between June of 2005 and January of 2006. The experiment collected polarimetric measurements of the multi-angular L-band signature of natural shrubs, thermal infrared measurements at every incidence angle, as well as *in-situ* temperature and soil moisture measurements at different depths. The site is characterised by a significant proportion of the ground covered by stone outcrops leading to shallow soils. The vegetation is well adapted to dry conditions in summer and to thaw in winter, and the vegetation biomass is subject to small variations throughout the year.

Multi-angular measurements (20 deg to 60 deg) at L-band were performed every hour by the EMIRAD L-band (1.4 GHz) microwave radiometer from the Electromagnetic Systems Group (EMI) of the Technical University of Denmark. EMIRAD was installed at the top of a 14-metre tower overlooking a patch of different types of shrub.

Preliminary results of EMIRAD data indicate a good sensitivity to soil moisture changes despite the vegetation layer at H and V polarisations (up to 40 K difference at H polarisation from dry to wet top soil). L-band data over shrubs are almost inexistent and vegetation parameters for this type of cover are needed in order to implement the SMOS emission model (L-MEB, L-band emission model of the Biosphere, Wigneron et al. 2003), which is the core of the SMOS algorithm for the retrieval of surface parameters from SMOS data. This communication presents current research on the determination of vegetation parameters for this type of ecosystem.

The MELBEX experimental site is placed on a proposed validation area for SMOS data. Shrubs represent one of the 'environmental units' that define a 40 km x 40 km rather homogeneous area ('SMOS reference pixel') mainly composed on vineyards. (see [Millan et al. in this workshop for further information on the 'SMOS reference pixel' characterisation at the Valencia Anchor Station area].