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THE MEDITERRANEAN ECOSYSTEM L-BAND CHARACTERISATION EXPERIMENT (MELBEX3) TO MONITOR SMOS VALIDATION CONDITIONS AT VALENCIA ANCHOR STATION IN 2010 AND 2011

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MELBEX (Mediterranean Ecosystem L-Band characterisation EXperiment) was designed as a framework of activities to characterise at L band the different and significant species of the Mediterranean ecosystem with the aim to increasing the applicability of the L-MEB Wigneron et al. (2007) model as the fundamental algorithm of the Level 2 Processor to retrieve surface soil moisture (SM) and vegetation optical depth (TAU) from SMOS (European Space Agency - ESA, Soil Moisture and Ocean Salinity mission) Kerr et al. (2001) observations. The experiment is taking place in The Valencia Anchor Station area which is situated in the Utiel-Requena region, 80km west of Valencia, Spain. Over 60Mediterranean vegetation (30al. (2010). The heart of the MELBEX3 project consist of L-band radiometer (EL- BARAII) Schwank et al. (2010), which was provided by ESA in the framework of Calibration/Validation activities for the Soil Moisture and Ocean Salinity (SMOS) mission. Radiometer was installed on 16 m tower overlooking the "tempranillo" vines. On top of the antenna, an infrared camera was mounted and directly in the antenna footprint there are 7 ThetaProbe soil moisture sensors.

In the vicinity of the tower there is a DAVIS meteorological station. All those parameters are registered automatically. Apart from those series of complementary measurements are taken in the radiometer footprint. On the weekly basis Leaf Area Index (LAI) is estimated with LI-COR LAI- 2000 instrument. Together with satellite products those indices are used to parametrize the vegetation water content, an important factor in L band emission simulations. This presentation shows the results of various supplementary measurements such as LAI, SM, infrared temperature, in relation with long-term comparison between ground based radiometer and spaceborne registrations made by SMOS. This comparison is also done with level 2 products. Influence of surface roughness in the retrieval is studied using parametrization suggested by H.Lawrance Lawrence et al. (submitted 2011)