



Radar detection of small rainfall amounts for spazialized monitoring of leaf wetness duration

L. Baldini (1), A. Cicogna (2), **S. Dietrich** (1), F. Di Paola (1), M. Gani (2), E. Gorgucci (1), E. Santorelli (1)

(1) CNR Institute of Atmospheric Sciences and Climate (ISAC), Roma, Italy. (2) ARPA-Centro Servizi Agrometeorologici (CSA) per il Friuli Venezia Giulia, Italy

Leaf wetness duration (LWD) is a fundamental information to predict plant diseases. Nevertheless, the dependance of LWD from crop parameters makes it not a true meteorological variable – this is the main reason why its measurement has not been routinely made as part of a general observation program by most national meteorological agencies. The development and the calibration/validation of physical model for LWD topographical measurement and forecasting could largely benefit of remotely sensed precipitation measurement. Up to now some attempts to use available precipitation data have underlined the need to fix some calibration uncertainties, recognized as the major obstacle for a wide operational use. The requirements – in terms of accuracy, spatial and temporal sampling - of precipitation data for such an application will be discussed by analyzing results obtained using Fossalon di Grado GPM-500 polarimetric radar data and network measurements provided by weather stations available in Friuli Venezia Giulia region, in north-eastern Italy. Focus will be on the capability to discriminate low precipitation regimes to usefully feed evapotranspiration physical models. This study is included in the INTERREG IIIA Italy-Slovenia PRADA project, aiming at the realization of a territorial system for the evaluation of Plasmopara viticola infection.