



Experimental monitoring of soil moisture dynamics over a hillslope transect

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Characterizing the spatial dynamics of soil moisture is a key issue in hydrology, offering an avenue to improve our understanding of complex land surface-atmosphere interactions. In this paper, the statistical structure of soil moisture patterns is examined using soil moisture measurements over a hillslope transect of the experimental basin of "Fiumarella of Corleto", located in Southern of Italy.

The instrumental system installed is composed by a TDR100 system connected, through three multiplexers, to 22 probes that are located in 11 sampling sites at two different depths: 30 and 60 cm. The datalogger is represented by a CR10 that transmits the soil moisture values, elaborated by the TDR100, in real time by GSM network. The installation covers a transect of about 60 meters and the sampling time frequency is of 1 hour.

Soil moisture measurements at two distinguished depths showed dramatically different temporal dynamics. The spatial structure of soil moisture has been investigated displaying two distinguished behaviour during the growing season and winter periods being this last influenced by the soil water redistribution. The preliminary results of this field campaign are reported in the present paper.