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## **Eddy covariance, scintillometer, and cosmic ray 1 km scale measurements at three sites (grassland, forest, and vineyard) in North-West Italy compared with CLM simulations**

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Water and energy balances have been monitored at a scale which is comparable with remote sensing one in three North-West Italy sites. One step has been to evaluate the performance of a land surface model, in this work the Community Land Model. The measurements taken at the horizontal hundreds meters scale are also compared with vertical profiles of local sensors of soil moisture.

At the grassland mountain site (2600 m asl) the eddy covariance data are taken from 6 years, while the 25 m high mast eddy covariance in the forest from 3 years. The scintillometer and cosmic ray in the vineyard have been installed from one year.

The main result is to have different land cover monitored at about 1 km scale, and to see that the uncalibrated simulations with CLM are following quite well the data in most cases. Also the comparison of cosmic ray and point soil moisture time series will be discussed. The future work will be the comparison with satellite data.

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