

Commercial Microwave Links for Precipitation Monitoring: The Experience of Arpae-SIMC in Emilia-Romagna

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Commercial Microwave Links (CML) offer advantageous properties compared to conventional sensors: they provide greater spatial representativeness than individual rain gauges and are positioned closer to the ground than the atmospheric volumes observed by weather radars. Moreover, CMLs are monitored in real time, and a well-designed opportunistic dataset can achieve latencies of less than 15 minutes. These factors make a CML network a valuable operational tool for precipitation measurement.

This objective is being pursued in Emilia Romagna (Italy) by Arpae-SIMC, through the activities of the EU LIFE CLIMAXPO project and the MODMET agreement between Arpae-SIMC and the Italian Civil Protection Department.

Real-time CML data are acquired and stored from the Hydro-Meteorological and Climate Structure of the Region (Arpae-SIMC). The data are shared by the company Lepida ScpA and consist of couples of instantaneous transmitted (TSL) and received (RSL) signal power levels (expressed in dBm) at one minute resolution, integrated by metadata about the locations of the antennas and the signal properties.

The purpose of this presentation is to report the experience developed within our regional weather service regarding the use of CMLs. In detail, it is intended to show the details of CML acquisition and related difficulties; the activities of the projects involved, in relation to the techniques developed within the COST action OPENSENSE.

Are you an Early Career Scientist ?

No

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