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Real time access to commercial microwave link data: Details of the data acquisition software, the database and its web frontend

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Using commercial microwave link networks for precipitation estimation has become popular in the last years. Acquiring the necessary data from the network operators is however still difficult. Usually, data is provided to researches with large temporal delay and at irregular basis.

Driven by the demand to facilitate this data accessibility, a custom acquisition software for microwave links has been developed in joint cooperation with our industry partner Ericsson. It is capable of recording data from a great number of microwave links simultaneously and of forwarding the data instantaneously to a newly established KIT-internal database. It makes use of the *Simple Network Management Protocol* (SNMP) and collects the transmitter and receiver power levels via asynchronous SNMP requests.

The software is currently in its first operational test phase, recording data from several hundred Ericsson microwave links in southern Germany. Furthermore the software is used to acquire data with 1 Hz temporal resolution from four microwave links operated by the skiing resort in Garmisch-Partenkirchen.

For convenient accessibility of this amount of data we have developed a web frontend for the emerging microwave link database. It provides dynamic real time visualization and basic processing of the recorded transmitter and receiver power levels.

Here we will present details of the custom data acquisition software with focus on the design of the KIT microwave link database and on the specifically developed web frontend.