



## **Real-time acquisition and processing of data from a country-wide network of commercial microwave links in Germany: Current status and challenges**

Christian Chwala (1,2), Gerhard Smiatek (1), Maximilian Graf (1), Julius Polz (1), Harald Kunstmann (1,2)

(1) Karlsruhe Institute of Technology (IMK-IFU), Institute of Meteorology and Climate Research, Garmisch-Partenkirchen, Germany (christian.chwala@kit.edu), (2) Institute for Geography, Regional Climate and Hydrology, University of Augsburg, Augsburg, Germany

The opportunistic usage of attenuation data from commercial microwave link (CML) networks for rainfall estimation is becoming more and more popular. CMLs provide a good complement to the traditional rainfall observations from rain gauges and weather radars.

In cooperation with Ericsson we operate a country-wide real-time data acquisition system in Germany. The system has been in operation continuously for more than four years with a steadily growing number of included CMLs. Since August 2017 we are recording data from 4000 CMLs covering the whole of Germany. The data is forwarded within seconds to our database and is processed to rainfall rates in near real-time.

We present the details of our data acquisition and processing chain, which is completely based on open-source software. Furthermore we elaborate on the related technological and scientific challenges. In addition we given an outlook on future applications of our real-time CML-derived rainfall information.