



Retrieval algorithm for rainfall mapping from microwave links in a cellular communication network

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Microwave links in commercial cellular communication networks hold a promise for areal rainfall monitoring and could complement rainfall estimates from ground-based weather radars, rain gauges, and satellites. It has been shown that country-wide rainfall maps can be derived from the signal attenuations of microwave links in such a network.

We present a rainfall retrieval algorithm, which is employed to obtain rainfall maps from microwave links in a cellular communication network. We compare these rainfall maps to gauge-adjusted radar rainfall maps. The microwave link data set, as well as the developed code, a package in the open source scripting language "R", are freely available at GitHub (<https://github.com/overeem11/RAINLINK>).

The purpose of this presentation is to promote rainfall mapping utilizing microwave links from cellular communication networks as an alternative or complementary means for continental-scale rainfall monitoring.