

## Publicly available four-year CML dataset for the Netherlands

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We present a dataset of commercial microwave link (CML) received signal levels for the Netherlands. This can be used to estimate path-average rainfall between telephone towers. It contains microwave frequency, end date & time of reading, minimum & maximum received power, path length, coordinates, link identifier, errored seconds, and severely errored seconds. The dataset consists of on average 3070 sub-links over 1818 unique link paths covering the Netherlands, having a temporal resolution of 15 min. The dataset spans the period 13 January 2011 up to and including 15 March 2015, although data gaps exist. It contains part of the network from one of the three mobile network operators in the Netherlands during this 4-year period. The data have been provided by the mobile network operator (MNO) T-Mobile NL (since 5 September 2023 called Odido). Note that the transmitted signal levels were not available and are nearly constant. No adaptive power control (ADPC) was used.

The following characteristics of the dataset are presented: 1) timeseries of number of sub-links and link paths as a function of time; 2) a scatter density plot of microwave frequency versus link length; 3) map of the Netherlands with the CML locations and their availability per year; 4) an example of the application of the dataset: a 3-month rainfall map based on merged radar and CML accumulations, which is compared to two gauge-adjusted radar rainfall maps.

We hope that this CML dataset will contribute to the OpenSense goal of comparing the performance of CML rainfall retrieval algorithms on common datasets and will lead to improved algorithms. Moreover, a publicly available reference dataset of gauge-adjusted radar rainfall accumulations is available covering the same period and area.

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