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Methodology improvement of microwave link derived rain rate in Sweden

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Microwave link derived rain rates show good correlation with ground observations, but can often suffer from large biases when applying only a standard ITU-R equation. The ITU-R equation describes the relation between path attenuation and rain rate, but other effects like wetting of the antenna can occur. Since 2015 SMHI has a semi-operational processing method that tries to correct these effects. Recently a new version of the algorithm was developed that was based on microwave link data gathered between May and November 2015 in Gothenburg, Sweden. These data were used to derive a attenuation- rain rate equation by directly comparing these data with rain gauge data. The resulting equation was tested on an independent dataset with a similar climate, namely Stockholm, for the period of 28 Juli-31 October 2018. The results are very promising and will be presented.

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