

Sessions: HS7.2 Precipitation variability from drop scale to catchment scale : measurement, processes and hydrological applications | Virtual PICO

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Title: Using weather radar to classify wet and dry periods for Commercial Microwave Links

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Using Commercial Microwave Links (CMLs) for measuring precipitation have gained more and more attention the past 10 years as it seems like a promising supplement to weather radar and rain gauge observations. It works by relating rainfall to signal attenuation along the CMLs path. As the signal level also can change due to other meteorological conditions such as air temperature and water vapor content, this opportunistic sensing method requires sophisticated data processing in order to relate signal attenuation to rain rate. One of the processing steps involves detecting wet and dry periods.

For this presentation, we classified wet and dry periods using a weather radar and a rain gauge in Ås, Norway. We use data like equivalent reflectivity and phase shift between horizontal and vertical polarization and compare it to ground truth measurements. The resulting wet dry classifications are then compared with a single CML link in the same area.