



## **Measurement and Analysis of Precipitation Temperatures and Their Potential as Non-Conservative Tracer for Understanding Rainfall-Runoff Processes**

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In this study, we investigate the potential of temperature as non-conservative tracer to improve the understanding of rainfall-runoff processes. The idea is that for those events where there is a sufficient difference between precipitation temperature and water (i.e. discharge) temperature in a river, the change of water temperature after the onset of a rainfall will allow some conclusions about the rainfall-runoff process.

We constructed a simple, low cost device which allows a continuous measurement of precipitation temperatures. These measurements were carried out at a meteorological station, where parameters like rainfall intensity, air temperature as well as data from vertical pointing micro rain radar were logged in high temporal resolution together with the precipitation temperatures.

We present the first results of these measurements for typical rainfall events and address relevant questions like the stability of precipitation temperatures during rainfall events and the behavior of air temperature and precipitation temperature.