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Forecasting the weather
- ensemble techniques
in probabilistic weather prediction

Two years field experiment on state of the art humidity sensors

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Accurate measurements of relative humidity (RH) are important for the calculation of the dewpoints and for the observation of atmospheric processes. Eight different capacitive polymer sensors were tested at a meteorological weather station of Deutscher Wetterdienst (DWD) in a mountain area (950 m altitude, 220 fog days/a on average). All humidity probes were arranged in a circle and artificially aspirated inside a single louvred wooden screen ("Giessener Hütte"). This set up provides homogeneous conditions for all sensors under test.
The aim of this work was to describe the characteristics of the polymer sensors and compare it to the reference system, a chilled mirror dew point sensor. In particular the response time of the humidity sensors and its impact on dew point determination was investigated.