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Temperature dissipation in convective clouds during EUREC⁴A

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During the EUREC⁴A campaign high (up to 3 mm) resolution temperature time series have been collected with the UFT-2 (Ultra-Fast-Thermometer) onboard the BAS Twin Otter aircraft in the subtropical low atmosphere in and between trade wind warm cumulus clouds. The measurements covered a wide range of atmospheric conditions, from cloud interiors, through cloud shells, air spaces between the clouds, as well as the atmospheric boundary layer. Data, resolving scales down the dissipation range allow to estimate temperature dissipation rate (TD) directly from the recorded signal. Examples of temperature fluctuations and associate TD records, characteristic to the various atmospheric conditions, will be presented and discussed.