



## **Super-cooled liquid water topped sub-arctic clouds and precipitation - investigation based on combination of ground-based in-situ and remote-sensing observations**

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In the high and mid latitudes super-cooled liquid water layers are frequently observed on top of clouds. These layers are difficult to forecast with numerical weather prediction models, even though, they have strong influence on atmospheric radiative properties, cloud microphysical properties, and subsequently, precipitation. This work investigates properties of super-cooled liquid water layer topped sub-arctic clouds and precipitation observed with ground-based in-situ (cloud probes) and remote-sensing (a cloud radar, Doppler and multi-wavelength lidars) instrumentation during two-month long Pallas Cloud Experiment (PaCE 2015) in autumn 2015. Analysis is based on standard Cloudnet scheme supplemented with new retrieval products of the specific clouds and their properties. Combination of two scales of observation provides new information on properties of clouds and precipitation in the sub-arctic Pallas region. Current status of results will be presented during the conference.

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