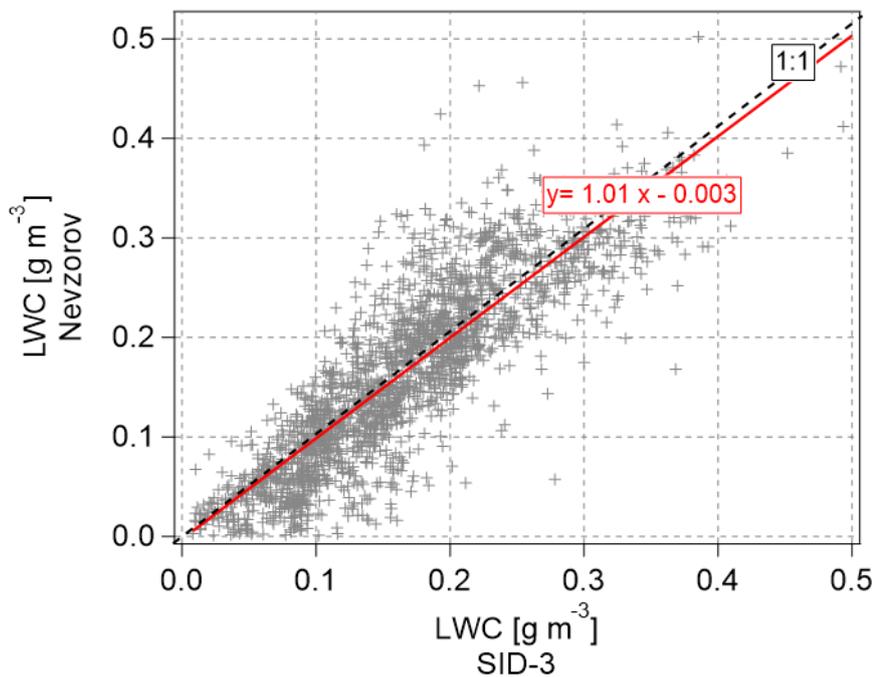


Supplementary



5 **Figure S 1** Scatter plot of liquid water content (LWC) measured with the Nevzorov probe and with the SID-3 probe for cloud particles with a diameter between $10 \mu\text{m}$ and $45 \mu\text{m}$ assuming spherical shape and density of 1g cm^{-3} .

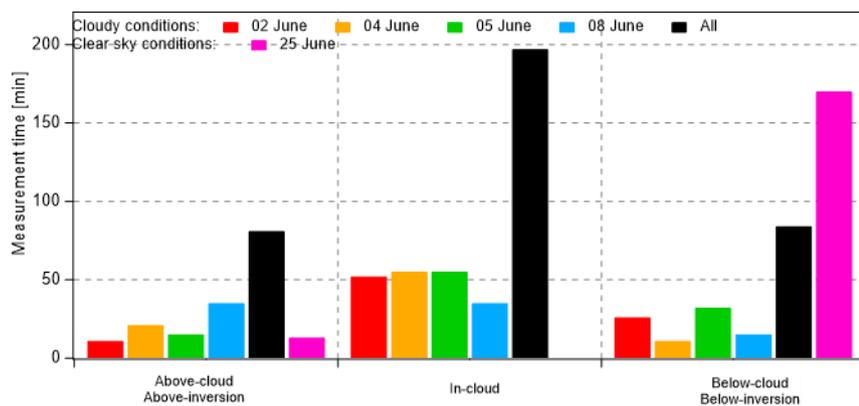


Figure S2 Duration of valid aerosol particles measurements in different atmospheric condition.

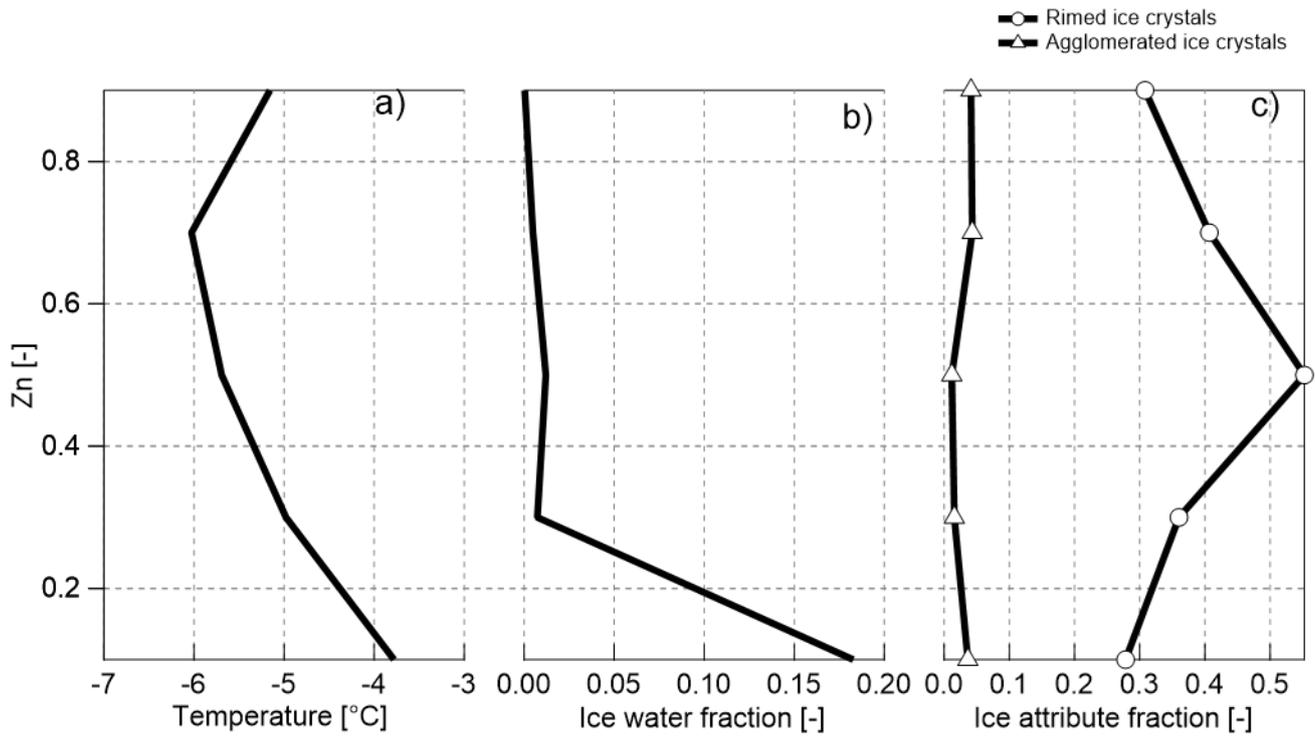


Figure S3 Vertical variability of temperature (a), ice water fraction (b), ice crystal attribute (c) in the cloud layer. Median and interquartile range calculated for in-cloud equidistant normalized altitude (Zn) steps of 0.2. Ice water fraction calculated from liquid water content (measured with SID-3 probe in the 10-45 μm diameter range) and ice water content (measured with the CIP probe in the 75-1500 μm diameter range). Attribute of ice crystals measured with the PHIPS probe in the 20-700 μm diameter range.

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