Increased volatility in cloud residuals compared to ambient aerosols

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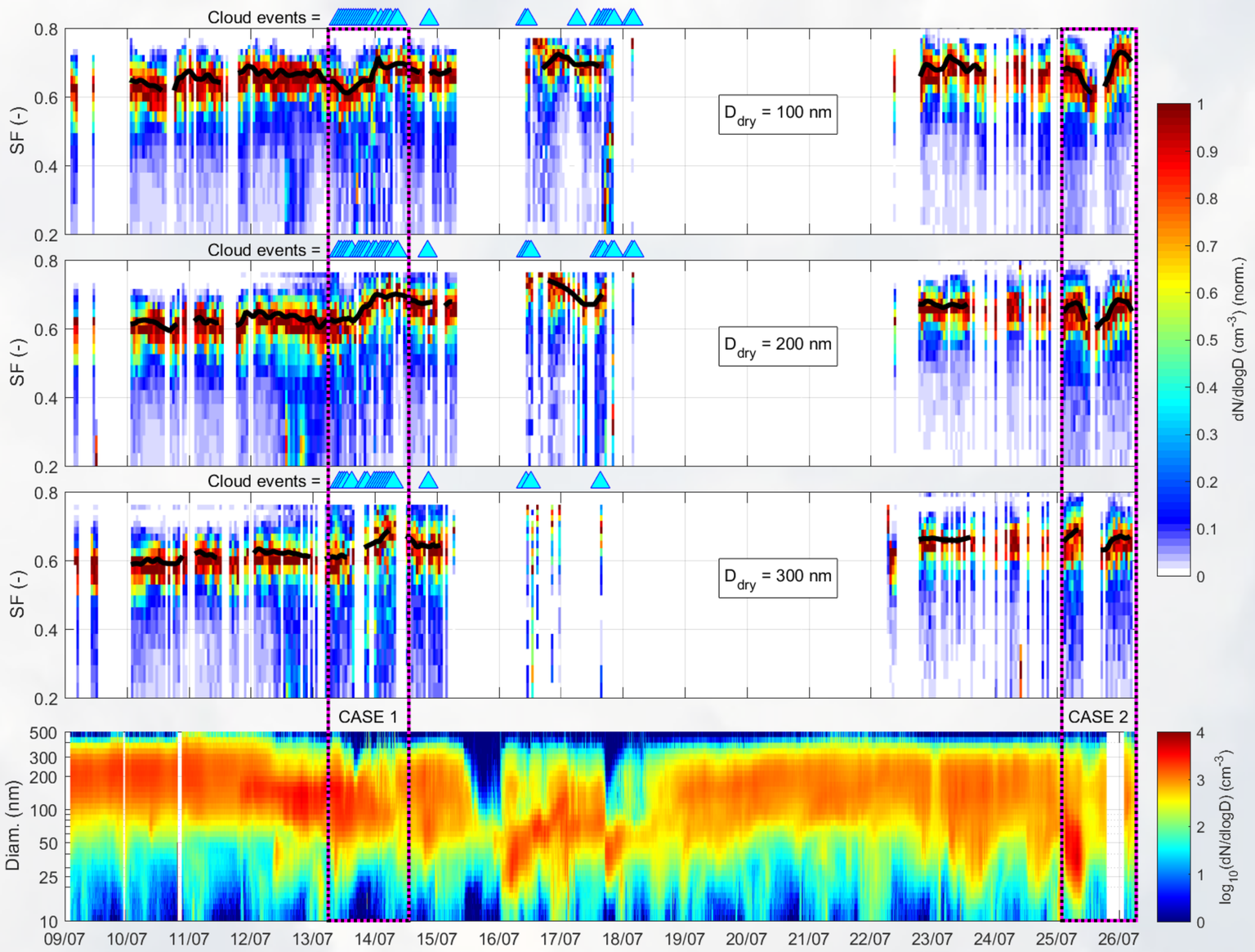
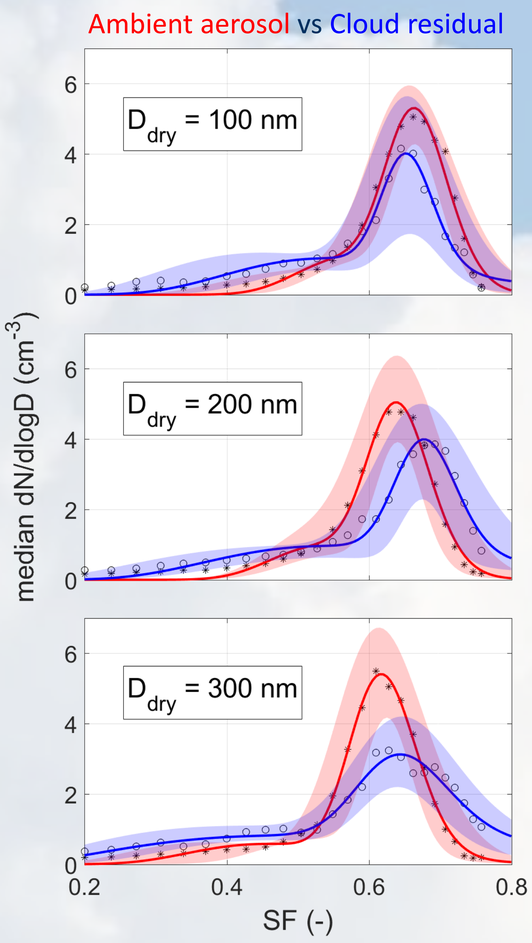
We see

INCREASING VOLATILITY DURING STRATIFORM CLOUD EVENT

- Decreased volatility with increased particle diameter
- Increased volatility for larger cloud residuals
- General lower hygroscopicity for smaller particles

1.2 < **GF** <1.5
0.08 < **κappa** < 0.26





* Areas are shaded between lognormal fits of the 25th – 75th percentiles

$$SF = 1 - \frac{D(T)}{D_{dry}} \qquad GF = \frac{D(RH)}{D_{dry}}$$

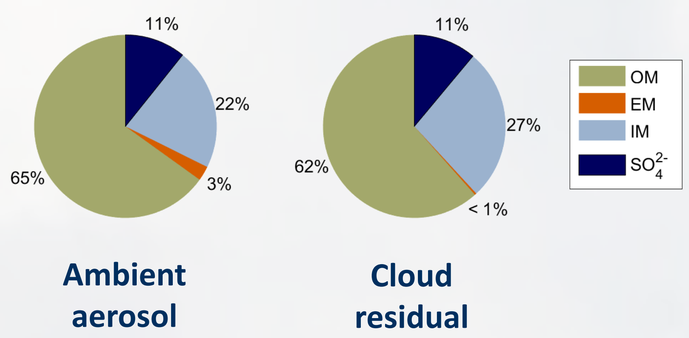
* Were D_{dry} is the initial particle diameter in the V/H-TDMA

CAEsAR Campaign, summer 2014

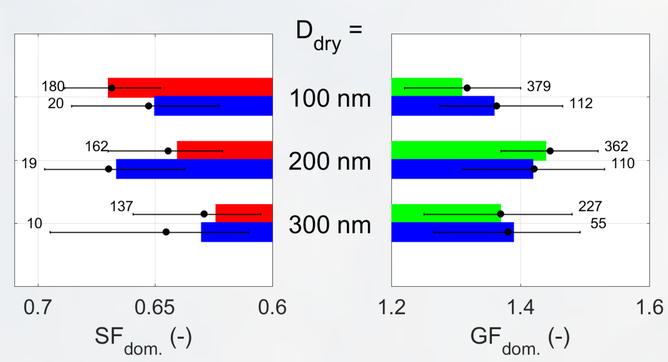
Aerosol physical and chemical properties was measured at Mt Åreskutan, Central Sweden.

A Volatility and Hygroscopicity Tandem Differential Mobility Analyser (**V/H-TDMA**) was connected to a Counterflow Virtual Impactor (**CVI**) inlet, separating ambient aerosols and cloud droplet residuals.

Chemical composition



Volatility vs Hygroscopicity



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