

# Characterizing the Aerosol Mixing State

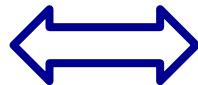
## Motivation

- The atmospheric impact of aerosols strongly depends on the size and mixing state of individual particles
- Aerosol mixing state and thus aerosol properties evolve with atmospheric aging
- Aerosol mixing state and its evolution are poorly represented by models

## Objective

Develop better understanding of aerosol mixing state and its evolution during aerosol lifecycle and explore the relationship

aerosol size and mixing  
state

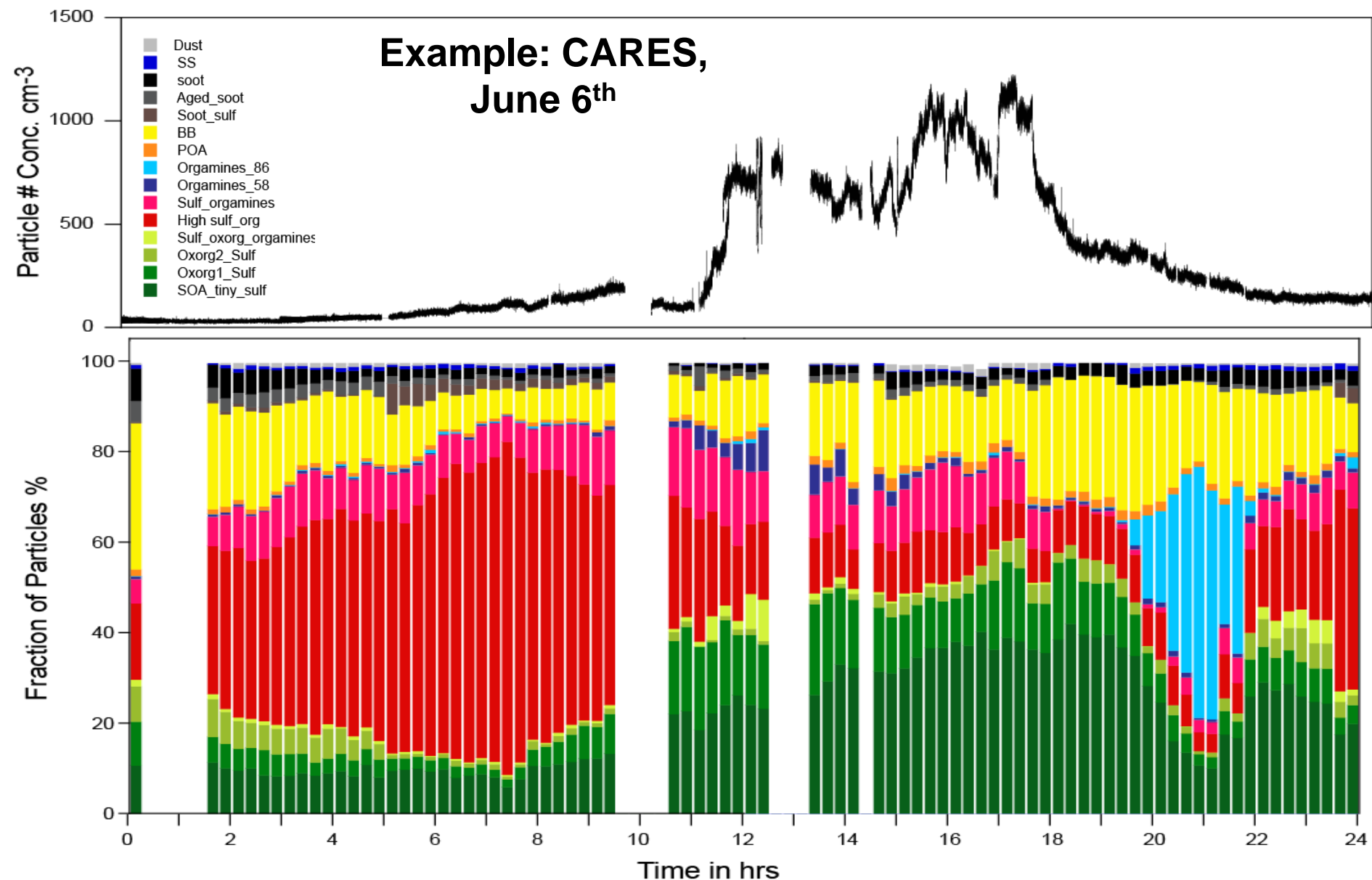


optical properties, hygroscopicity,  
CCN and IN activity

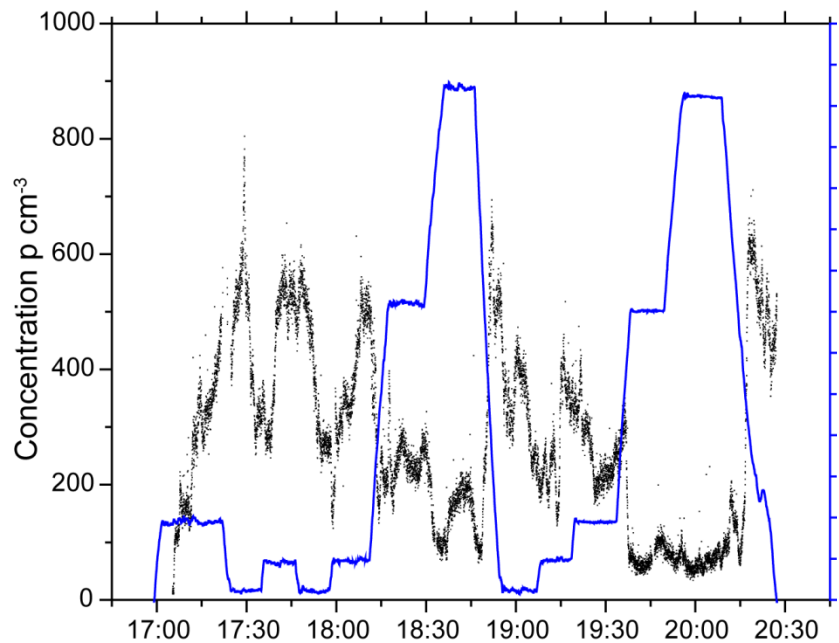
## Approach

We employ a combination of laboratory and field measurements that use single particle mass spectrometer, **SPLAT II**, for *real-time* characterization of the size, composition, and density of individual particles and their optical properties, hygroscopicity, CCN and IN activity.

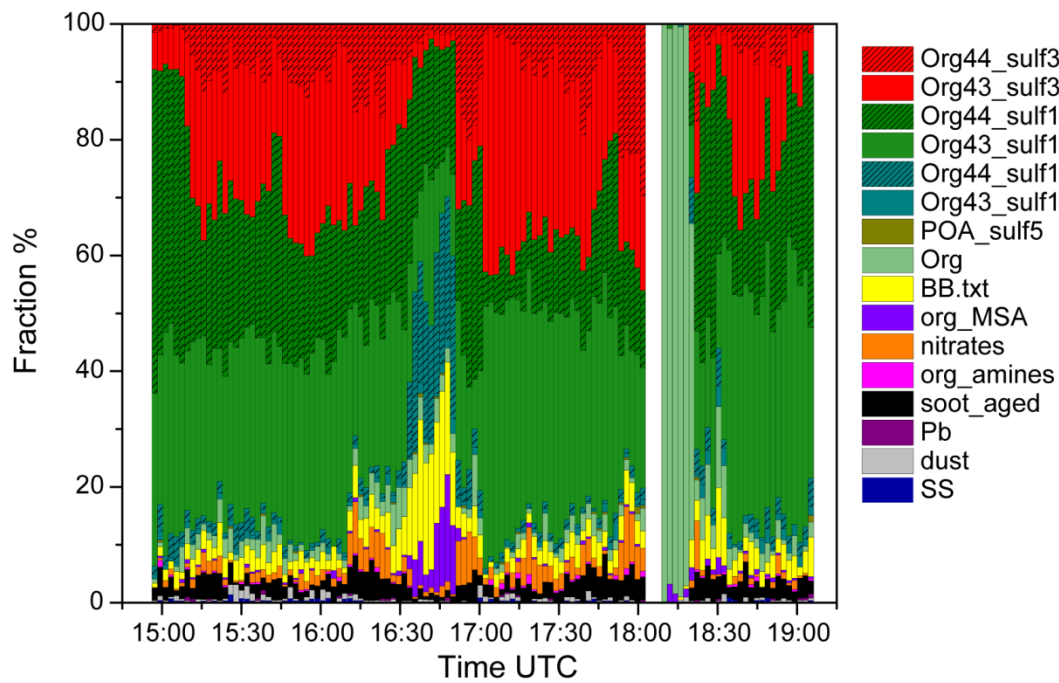
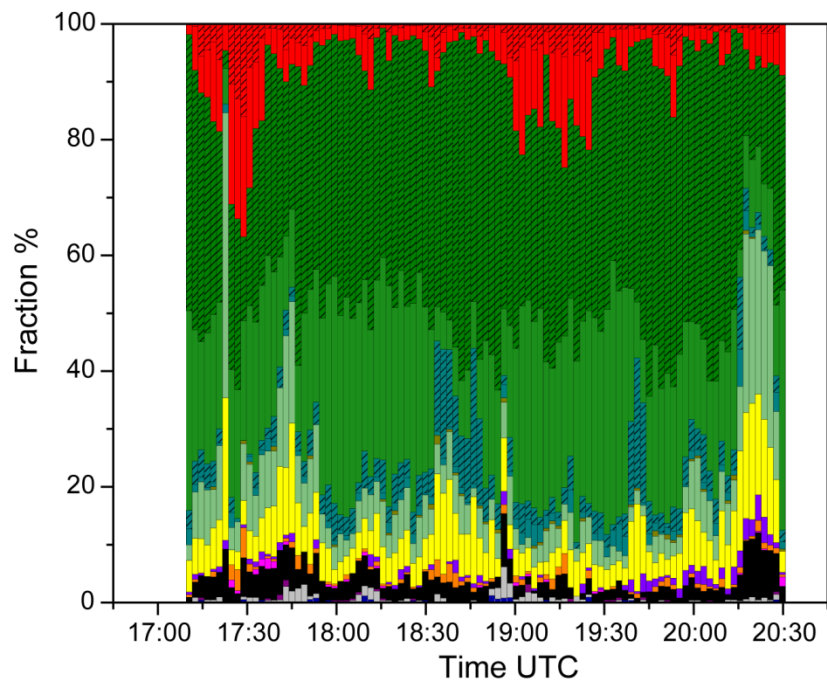
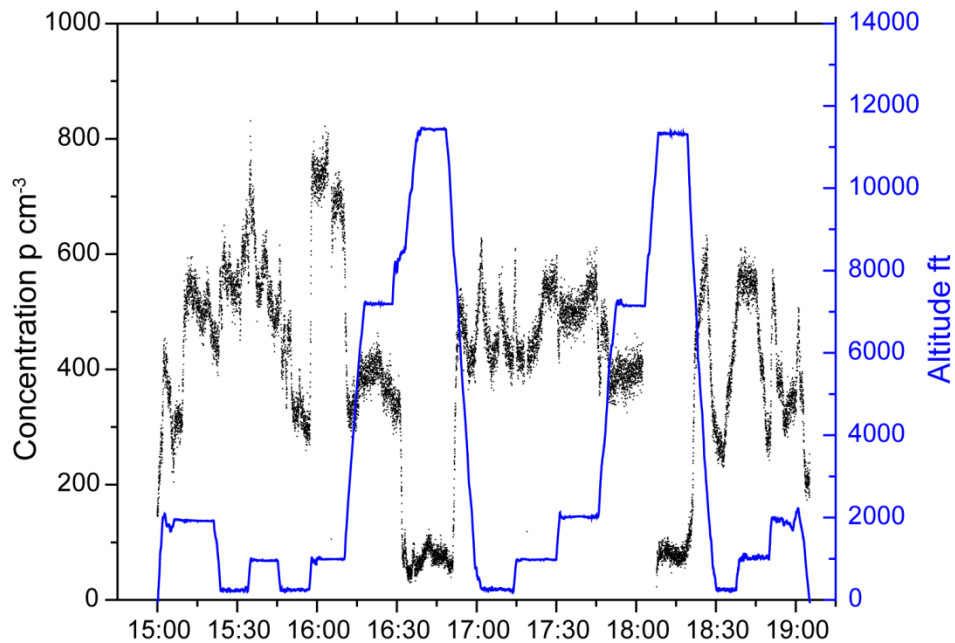
# Temporal Evolution of SPLAT measured Particle Concentrations and Chemical Composition



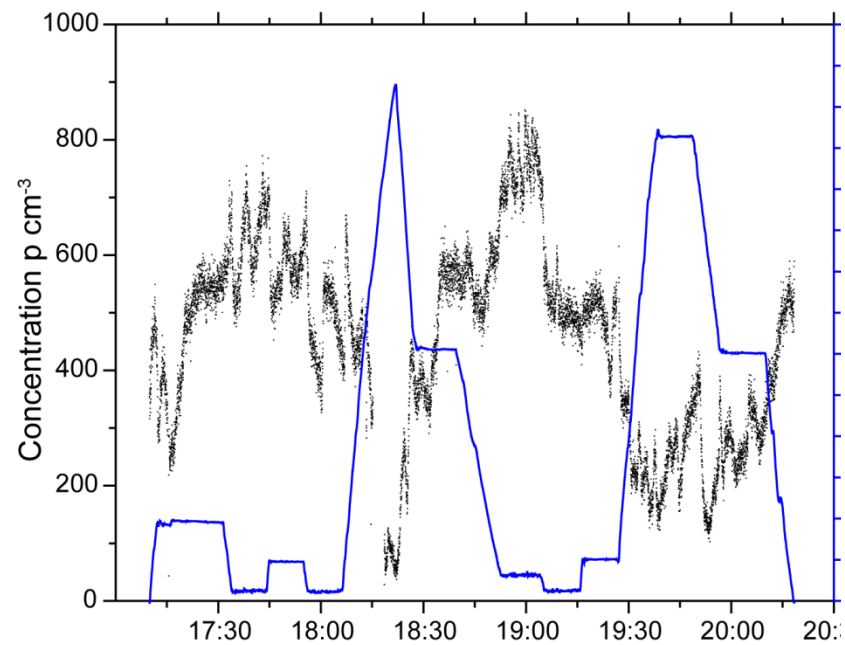
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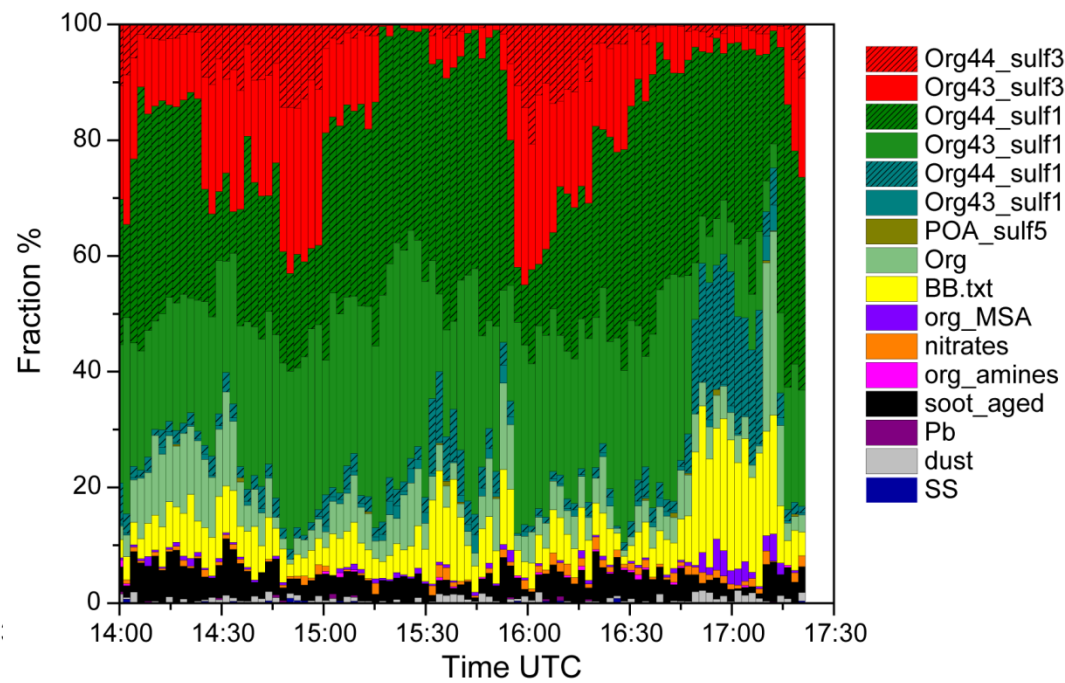
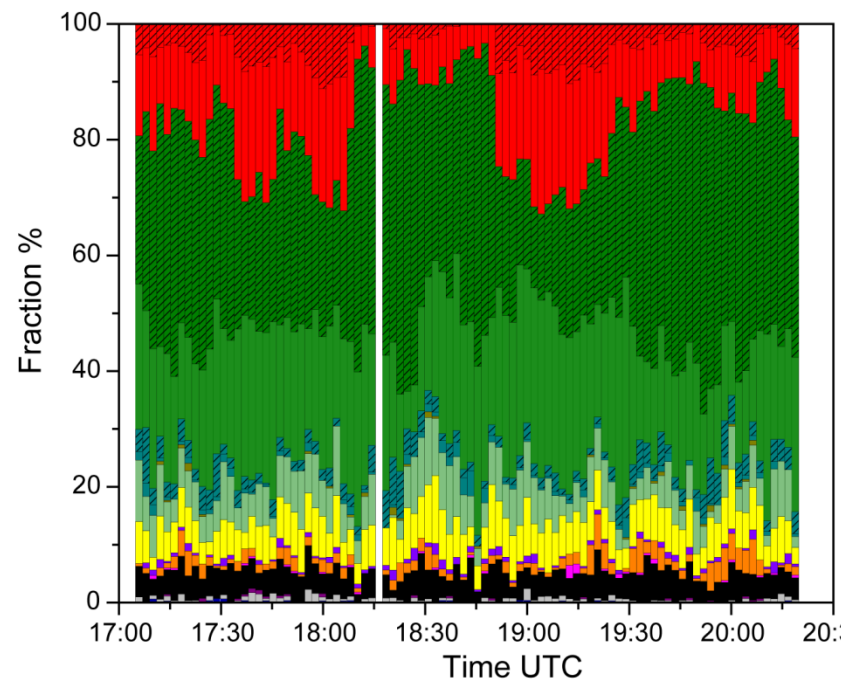
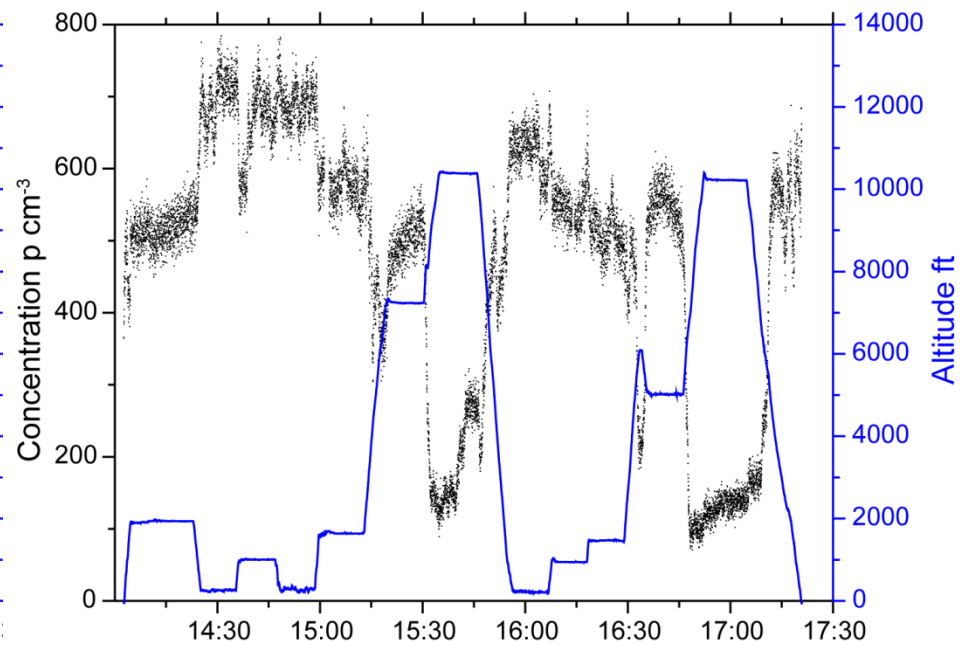
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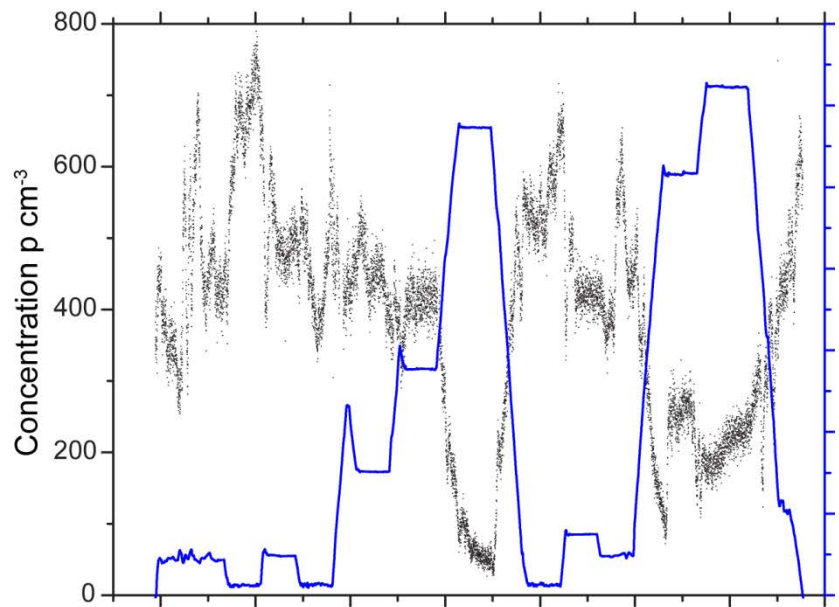
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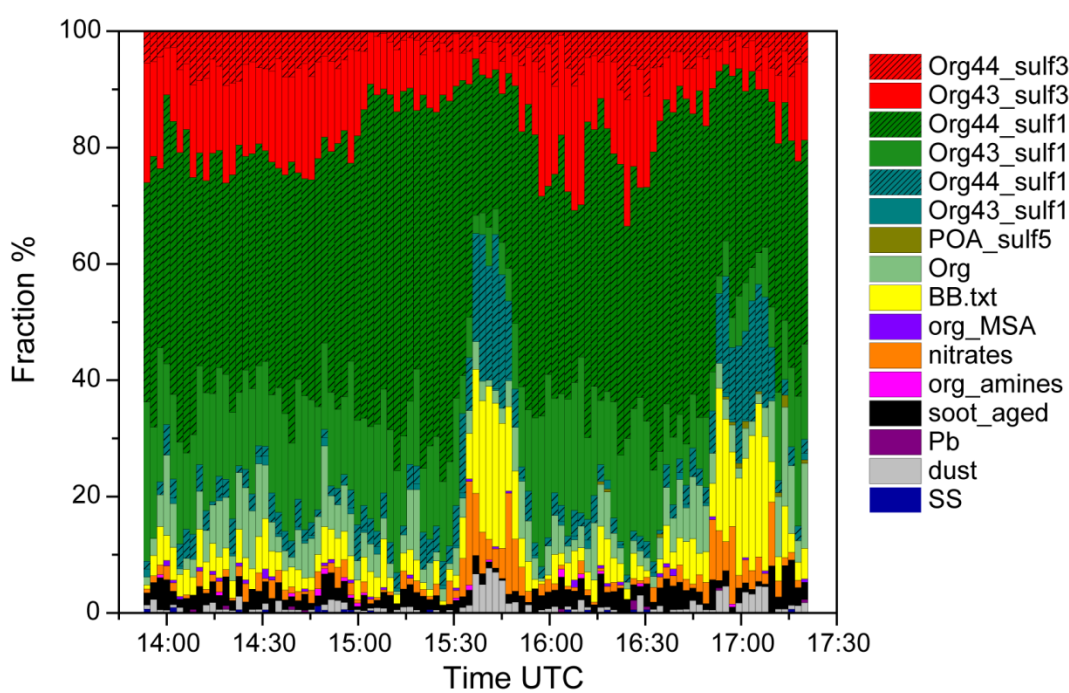
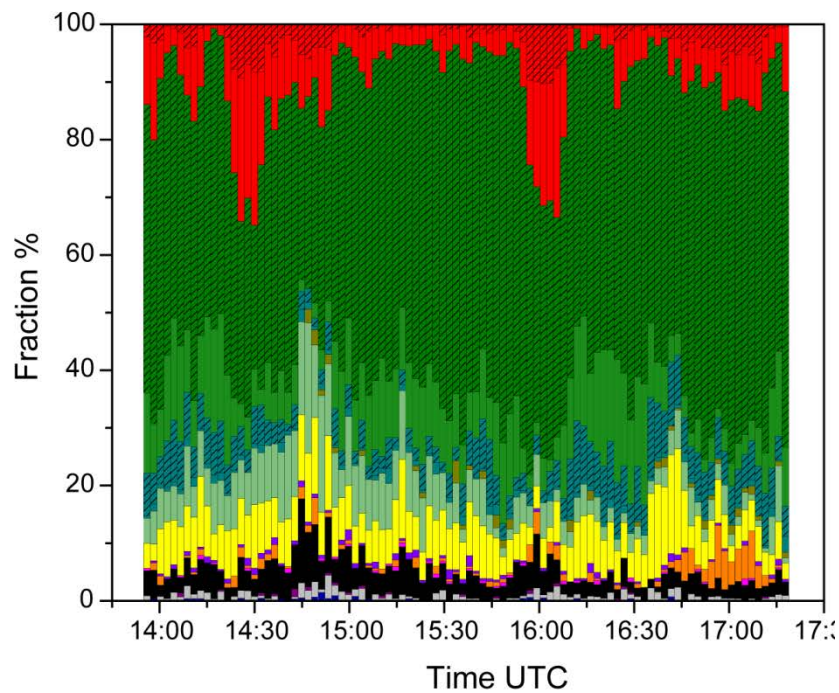
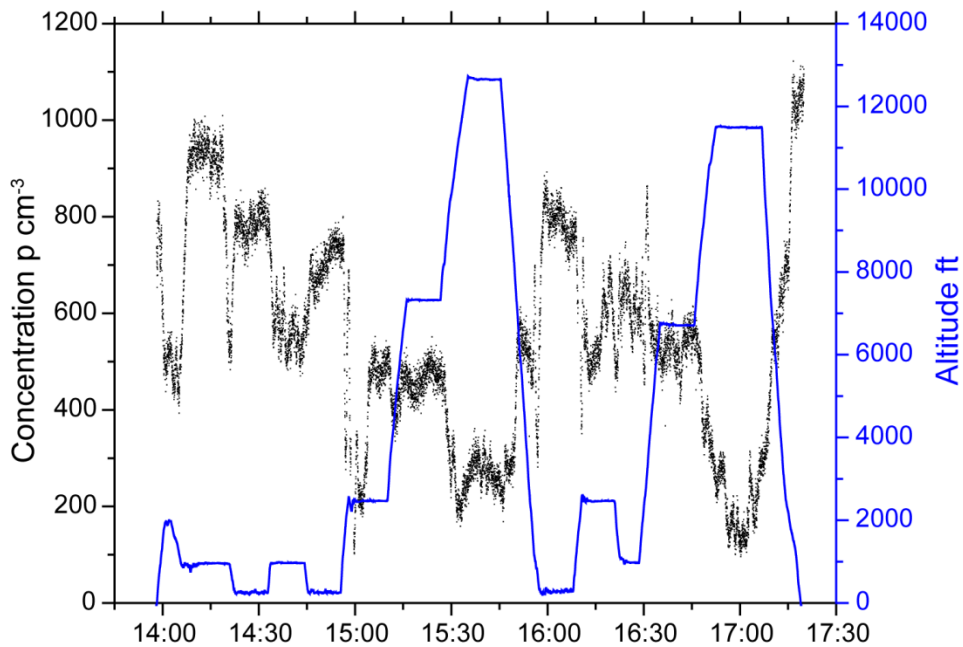
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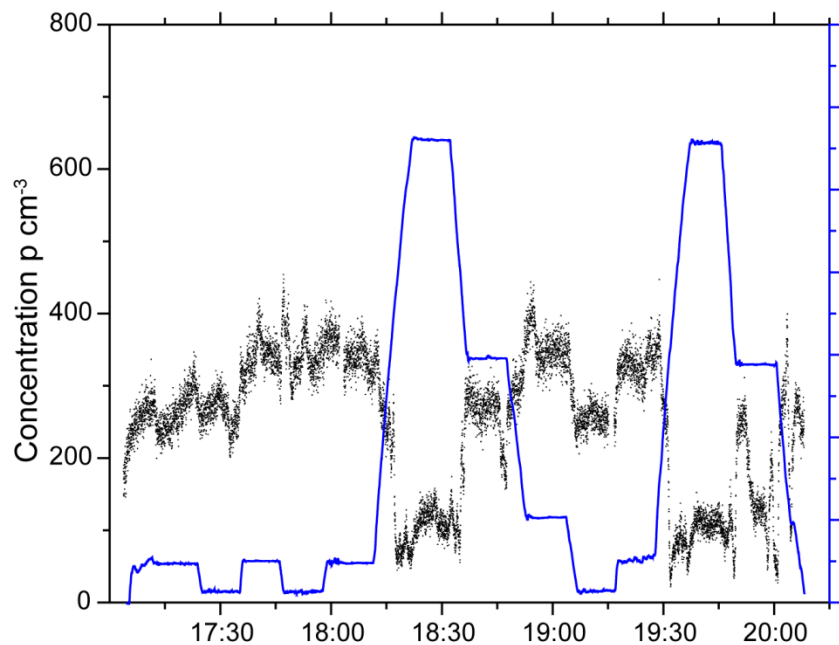
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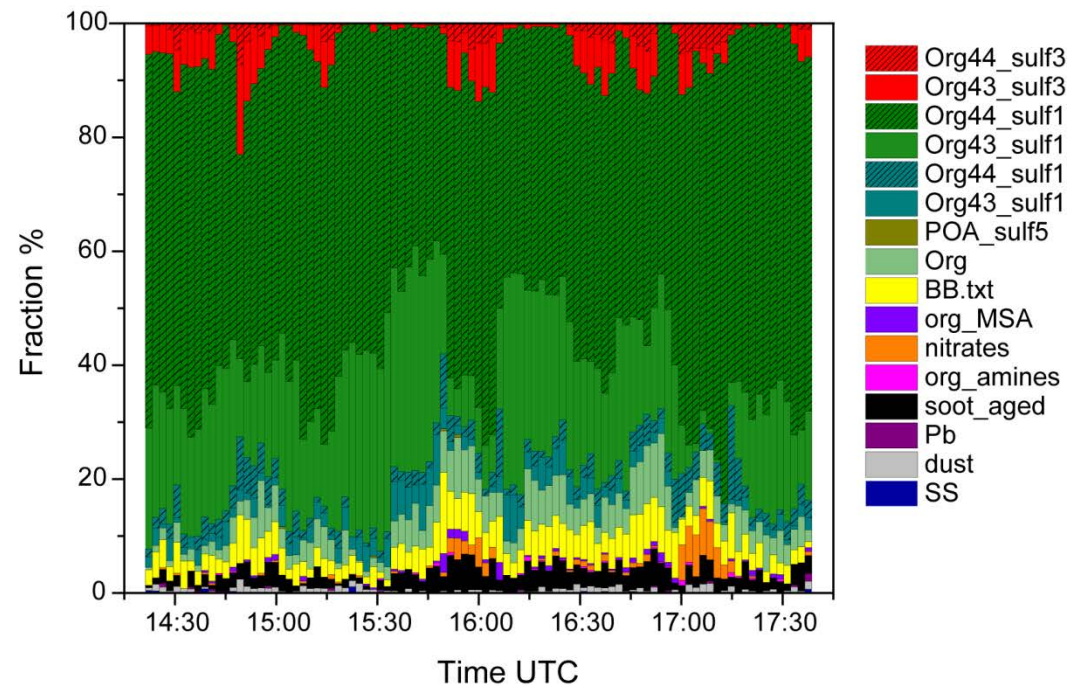
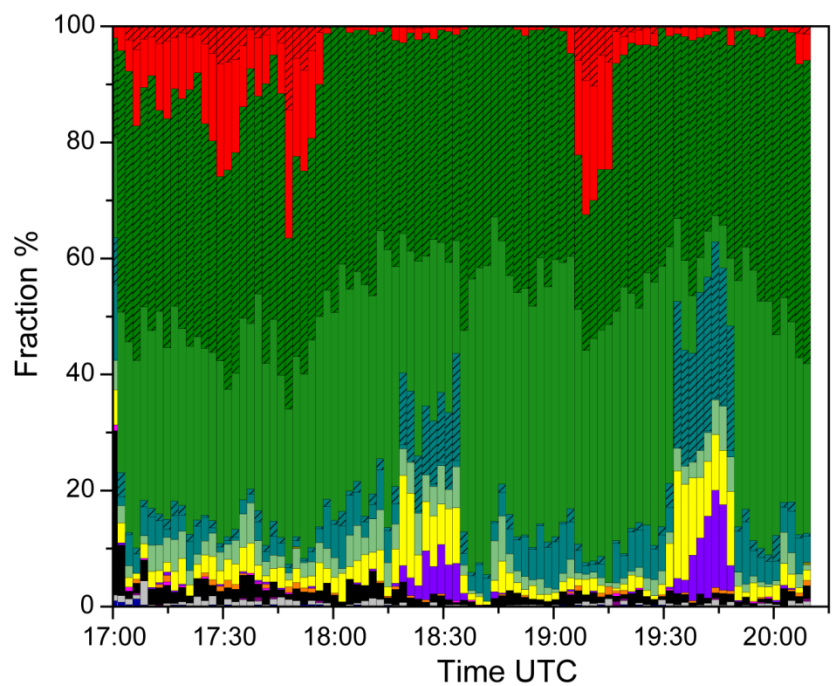
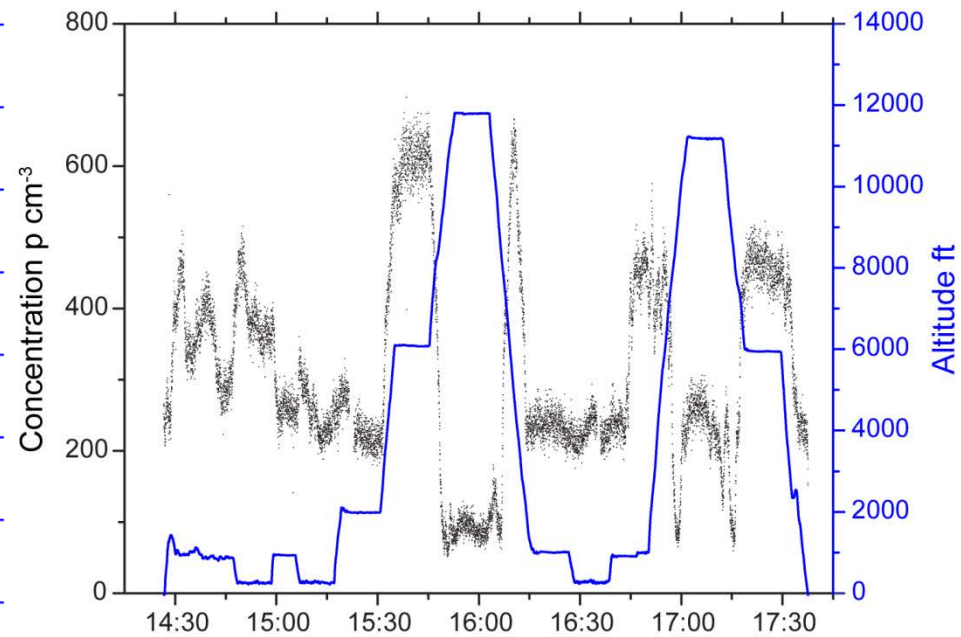
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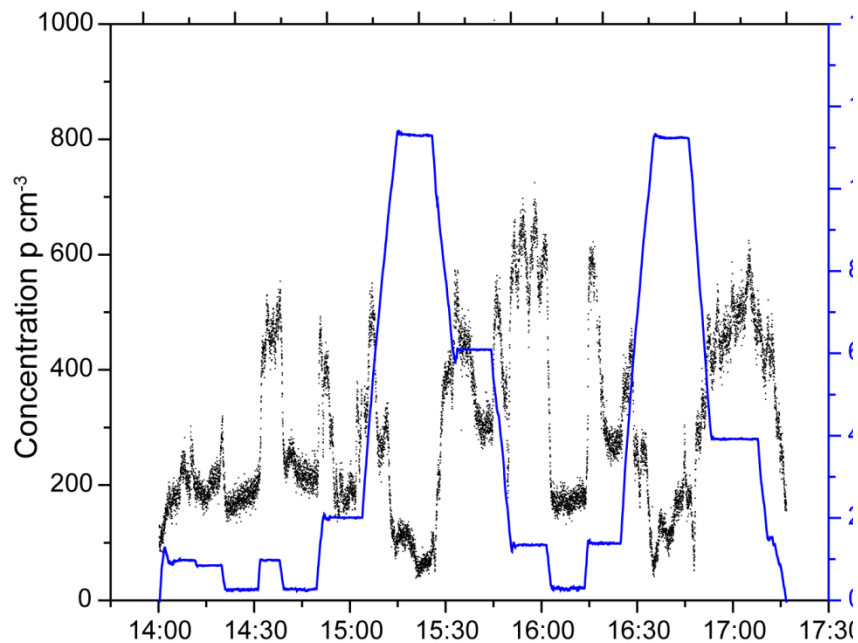
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**July 22**



**July 23**



**July 25**

