Dry Size Distributions
- NMASS
- UHSAS
- LAS

Ambient Size Distributions
- CAS

Single Particle Composition
- PALMS

Bulk Particle Composition
- AMS

Combine to get Size-Resolved Compositional Description, Mixing State

Compositional Model for Inorganics \((\text{NH}_4)_2\text{SO}_4, \text{H}_2\text{SO}_4, \text{NH}_4\text{Cl}, \text{etc.})\)

\(\kappa\)-Köhler Hygroscopic Growth Model with Internally & Externally Mixed Components

Black Carbon Mass, Size Dist., Coating Thick.
- SP2

Optical Model: Mie Theory with Internally & Externally Mixed Components

Optical Model: Absorbing BC size distribution with non-absorbing coating

Water-Soluble Brown Carbon Absorption
- Filter, offline

Ambient Optical Properties: Extinction, Absorption, SSA, Asymmetry Parameter, etc.

Integrate Extinction Over Individual Vertical Profiles

Aerosol Optical Depth

\(\text{H}_2\text{O}, \text{Temperature, and Pressure}\)

Measurements

Processes

Outputs