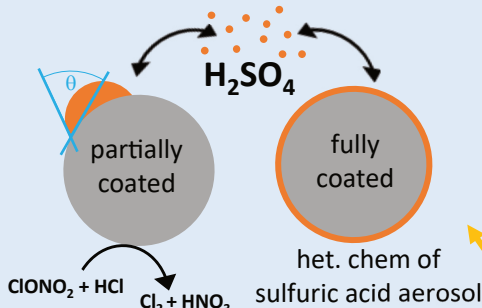


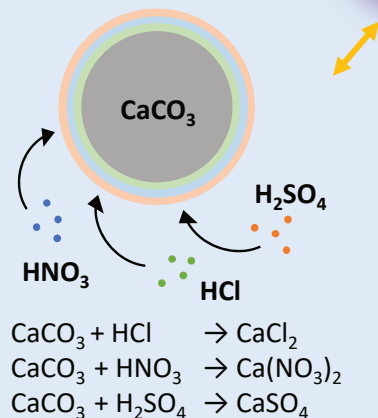
## Alumina Particles

### Condensation / Evaporation



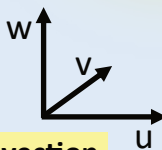
### Heterogeneous Chemistry

## Calcite Particles



### Heterogeneous Chemistry

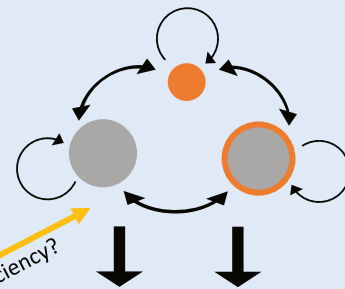
### Advection



### SW scattering and absorption

### Heating from LW absorption

### Agglomeration via coagulation



Scattering Efficiency?

### Sedimentation

Tropopause

### Wet deposition

### Dry deposition

Ocean vs. land vs. ice response?

### Ozone alteration?

Strat.-Trop. dynamical response?



- $\Delta$  Wind?
- $\Delta$  Precipitation?
- $\Delta$  Temperature?

••• Gaseous  $\text{H}_2\text{SO}_4$  /  $\text{HNO}_3$  /  $\text{HCl}$  molecules

● Polydisperse  $\text{H}_2\text{SO}_4$ - $\text{H}_2\text{O}$  background aerosol

● Monodisperse solid particles

●● Solid agglomerates (dimers, 4-mers, *i*-mers, ... 512-mers)

●  $\text{CaCO}_3$  with  $\text{CaCl}_2$ ,  $\text{Ca}(\text{NO}_3)_2$  and  $\text{CaSO}_4$  layers

●  $\text{H}_2\text{SO}_4$ -coated monomers and agglomerates

● Shortwave (blue) and longwave (red) radiation

● Feedbacks between processes