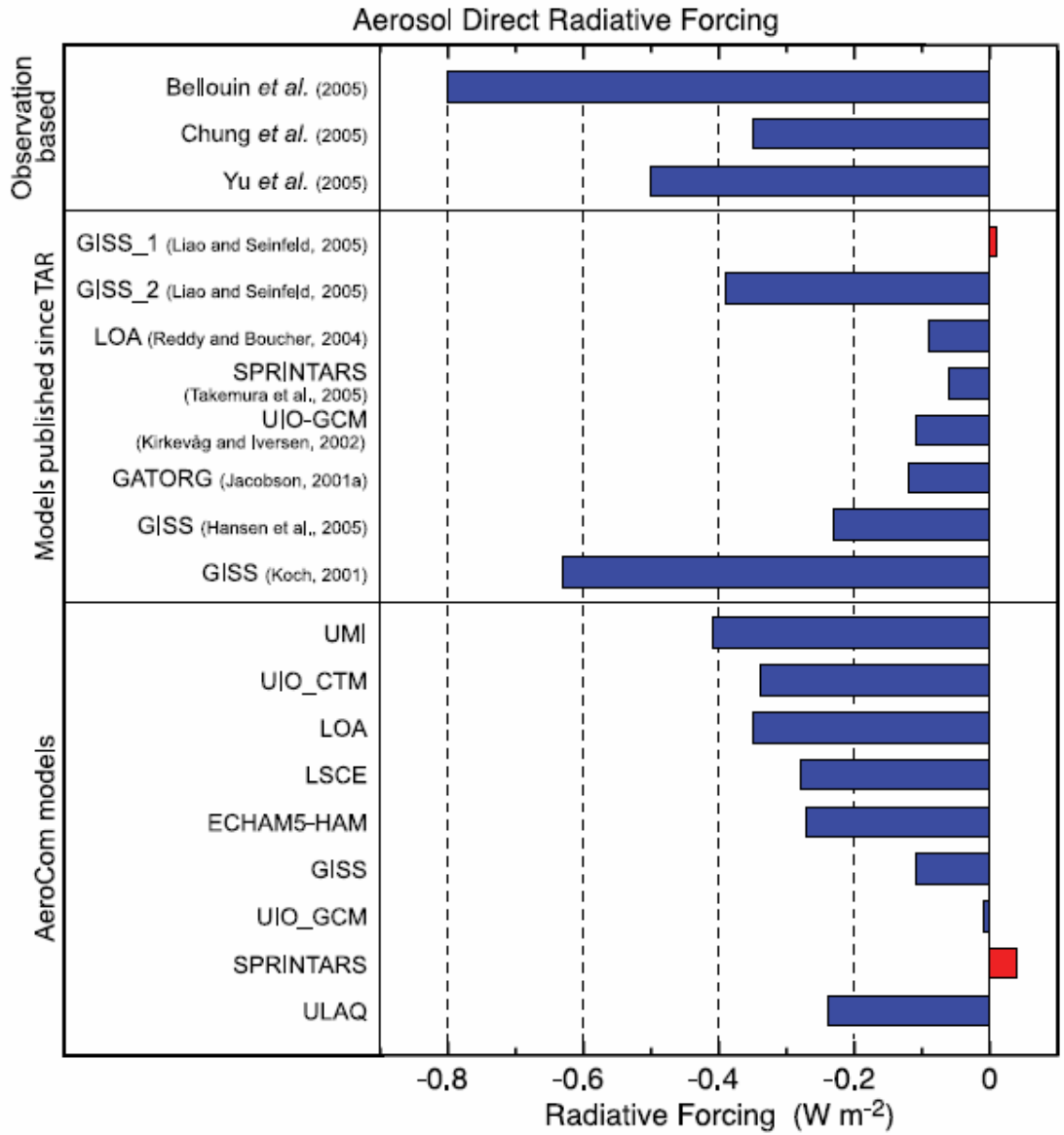
Stronger direct aerosol RF from observational based than models

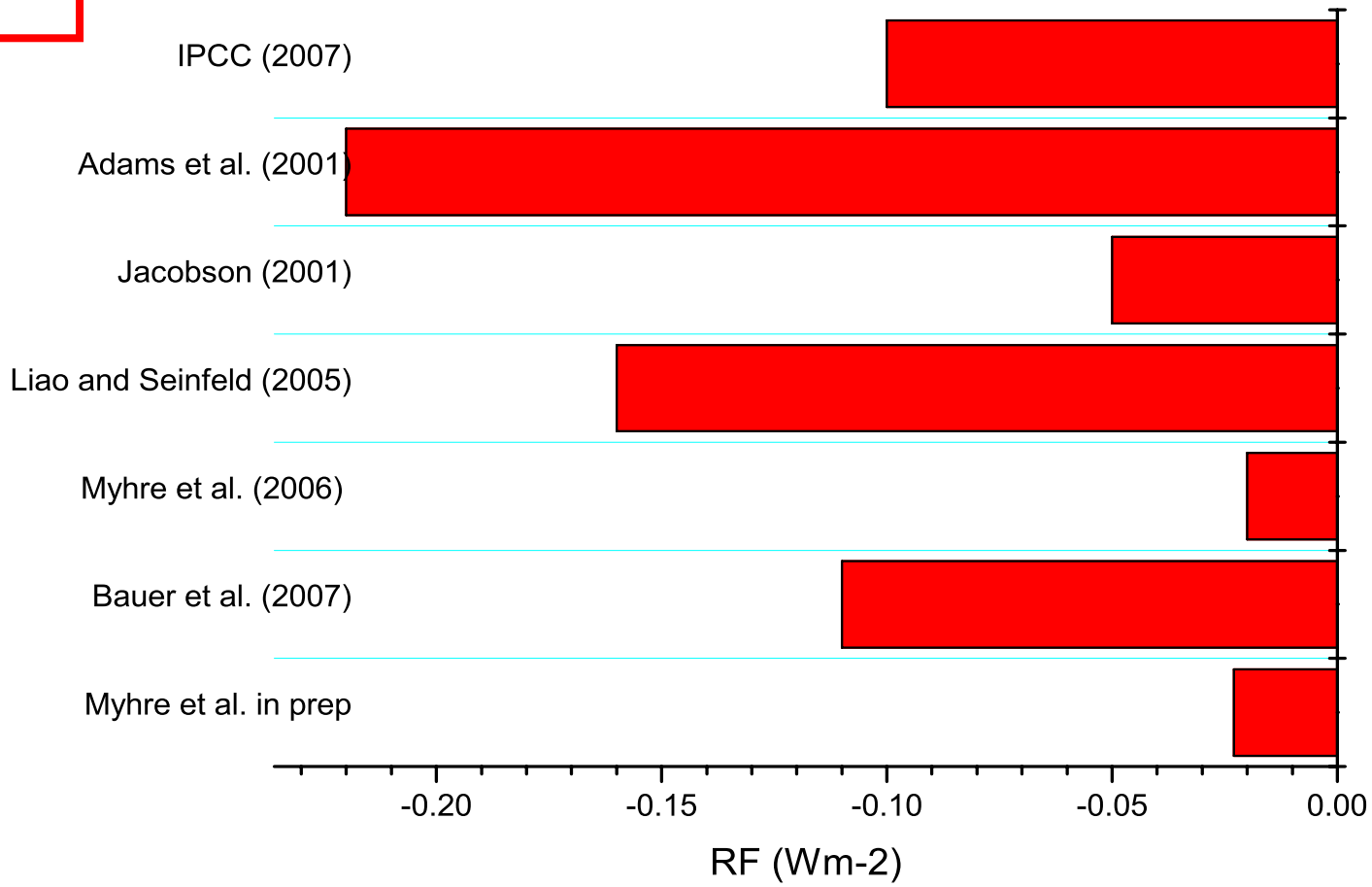


Several causes for the difference, but do secondary components not included in the AEROCOM models play a role?

IPCC, 2007

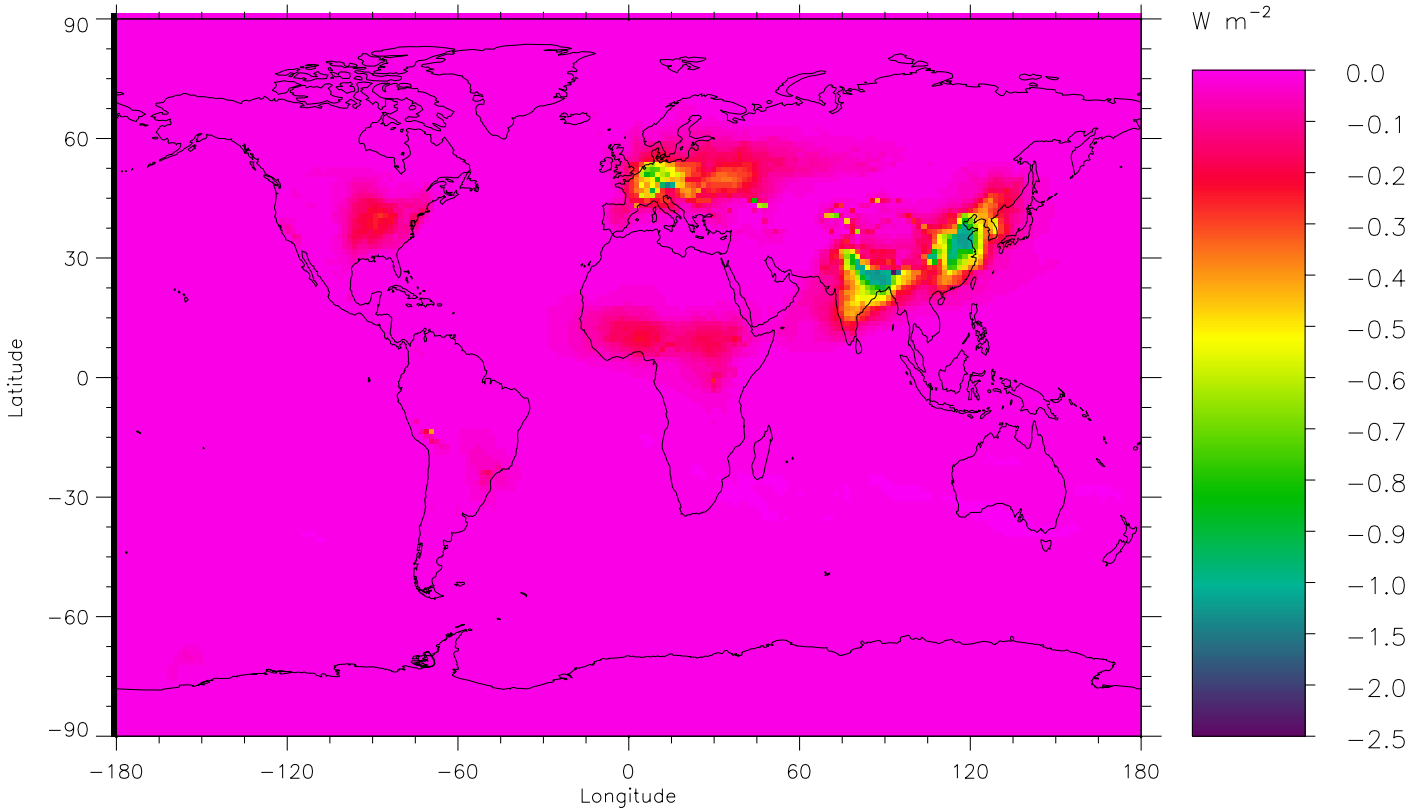
RF estimates for nitrate

Larger range than for most other aerosol components

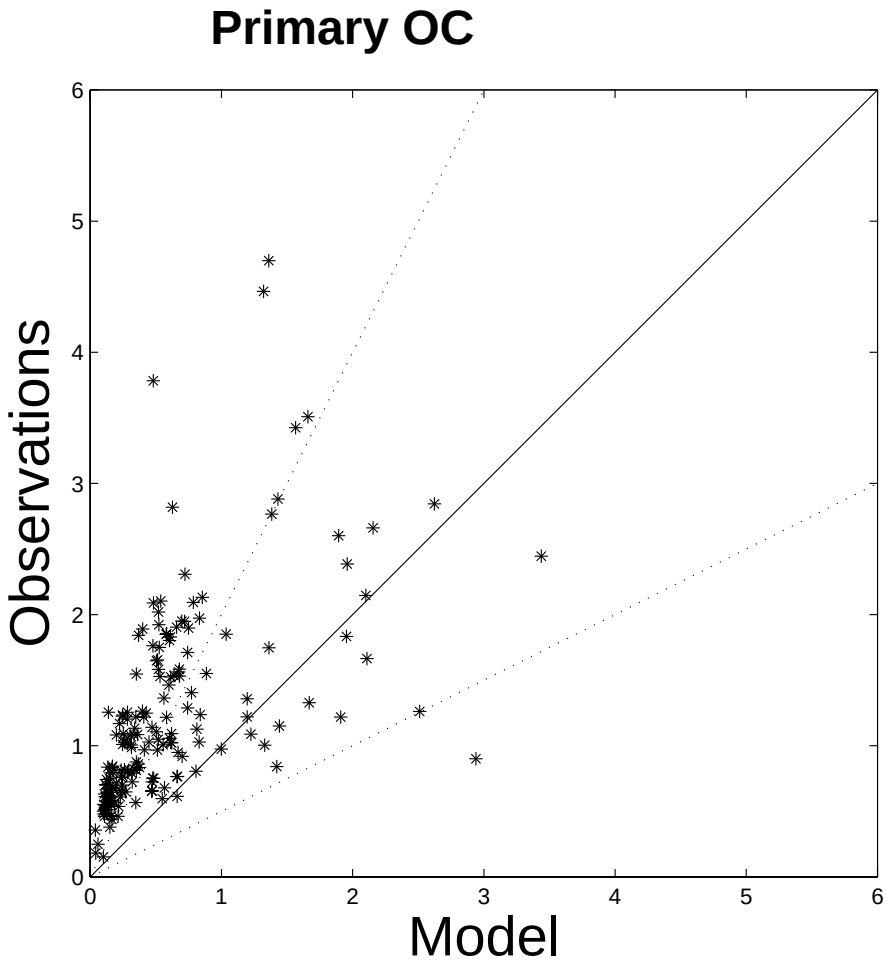


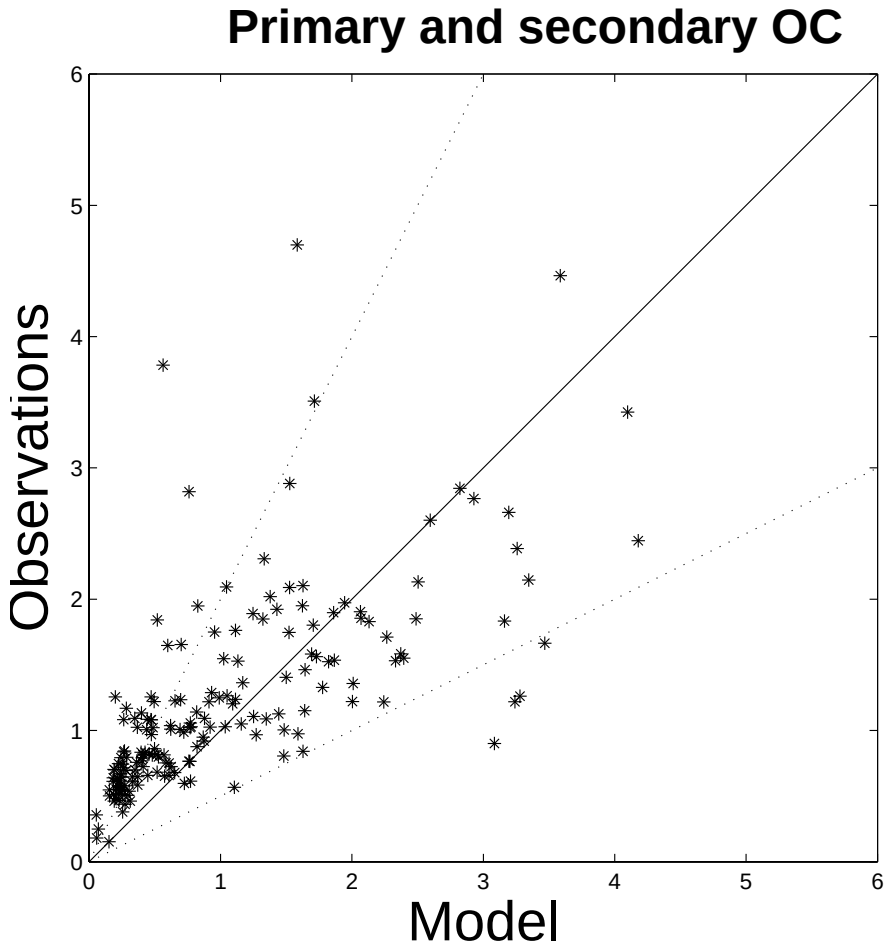
The nitrate amount is dependent on other aerosol species and aerosol precursors

- NH_3 and NO_x
- Sulphate, since the excess of NH_3 can react to NH_4NO_3
- Large particles as sea salt and mineral dust



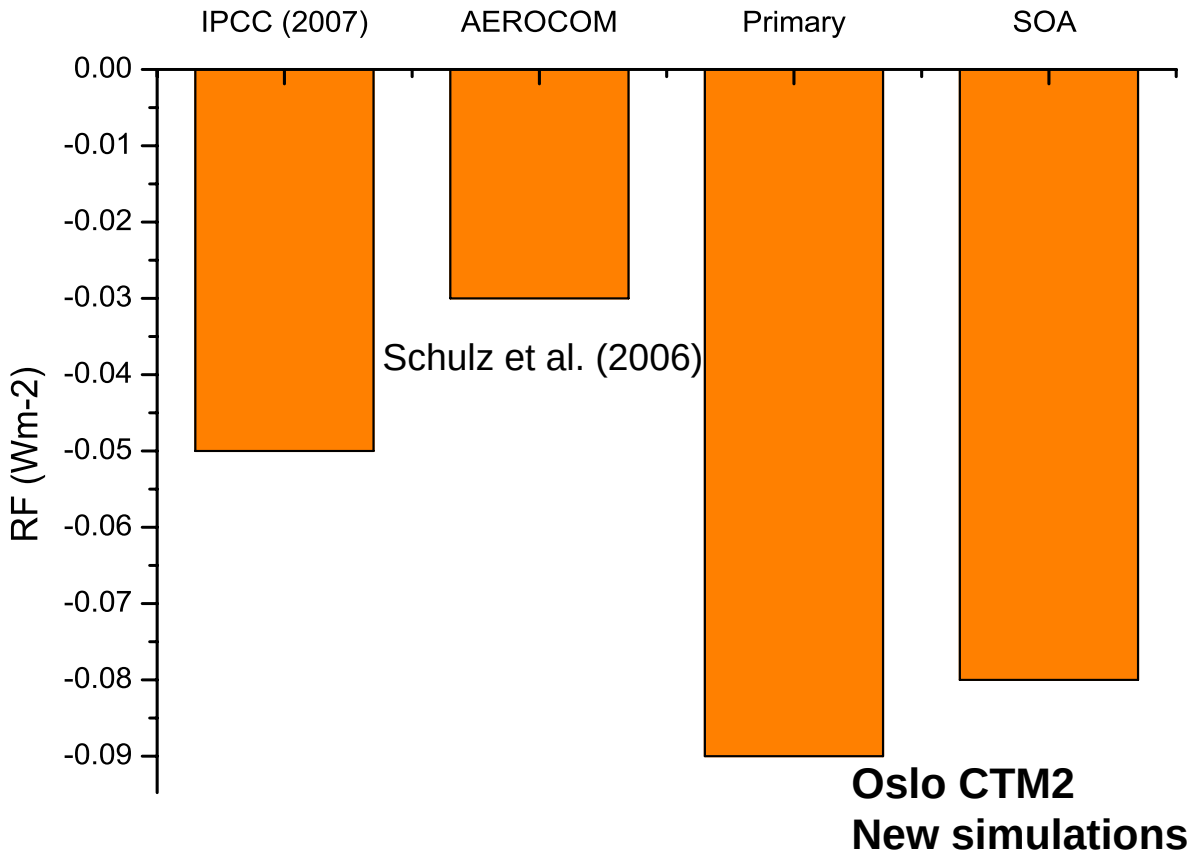
OC observations from the US IMPROVE network

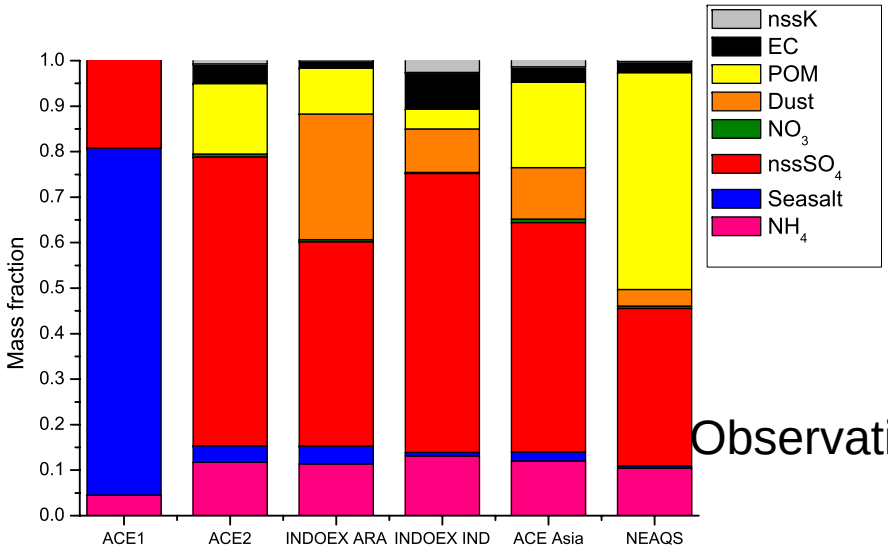




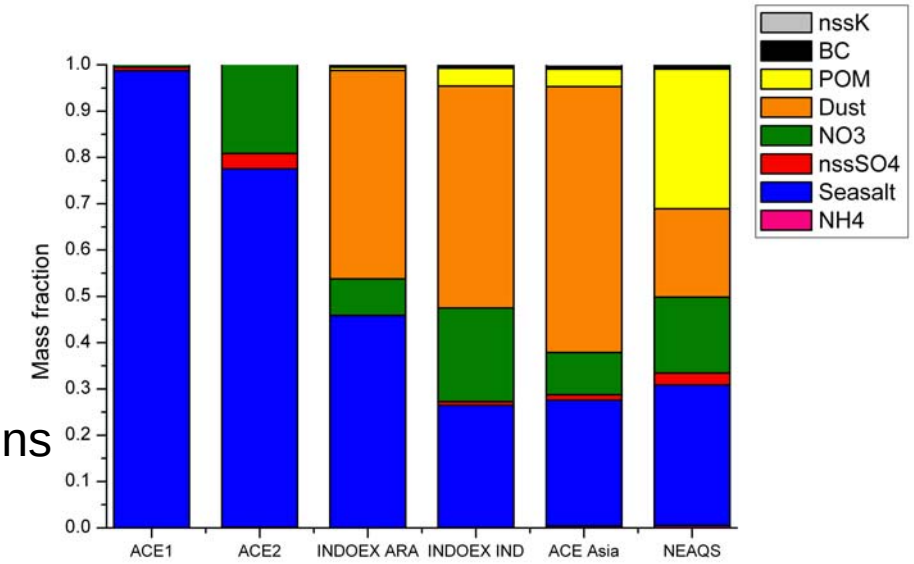
RF OC Fossil fuel

- ✓Secondary organic aerosols (SOA) were simplified treated in Schulz et al. (2006) and only included as a natural component
- ✓SOA is also important for the biomass burning aerosols
- ✓For Primary organics look at the OM/OC ratio



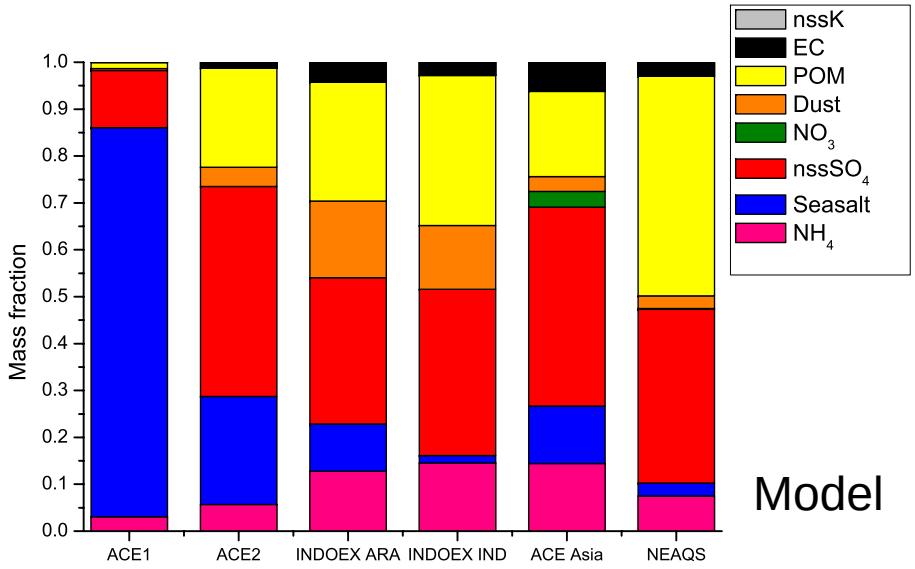
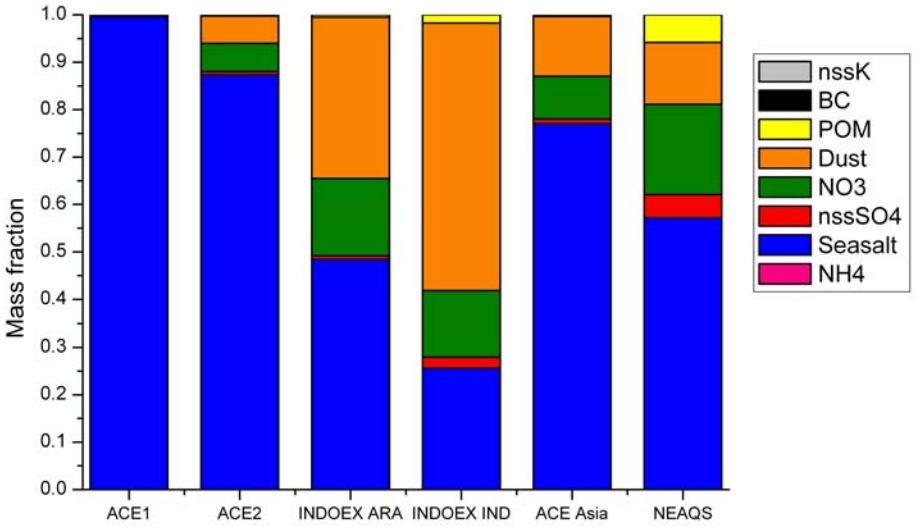


Observations



Fine mode

Coarse mode



Model