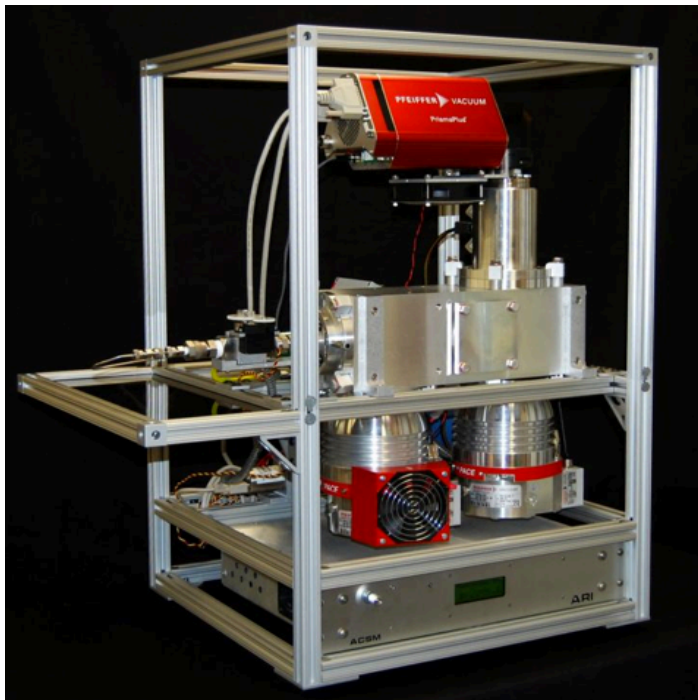
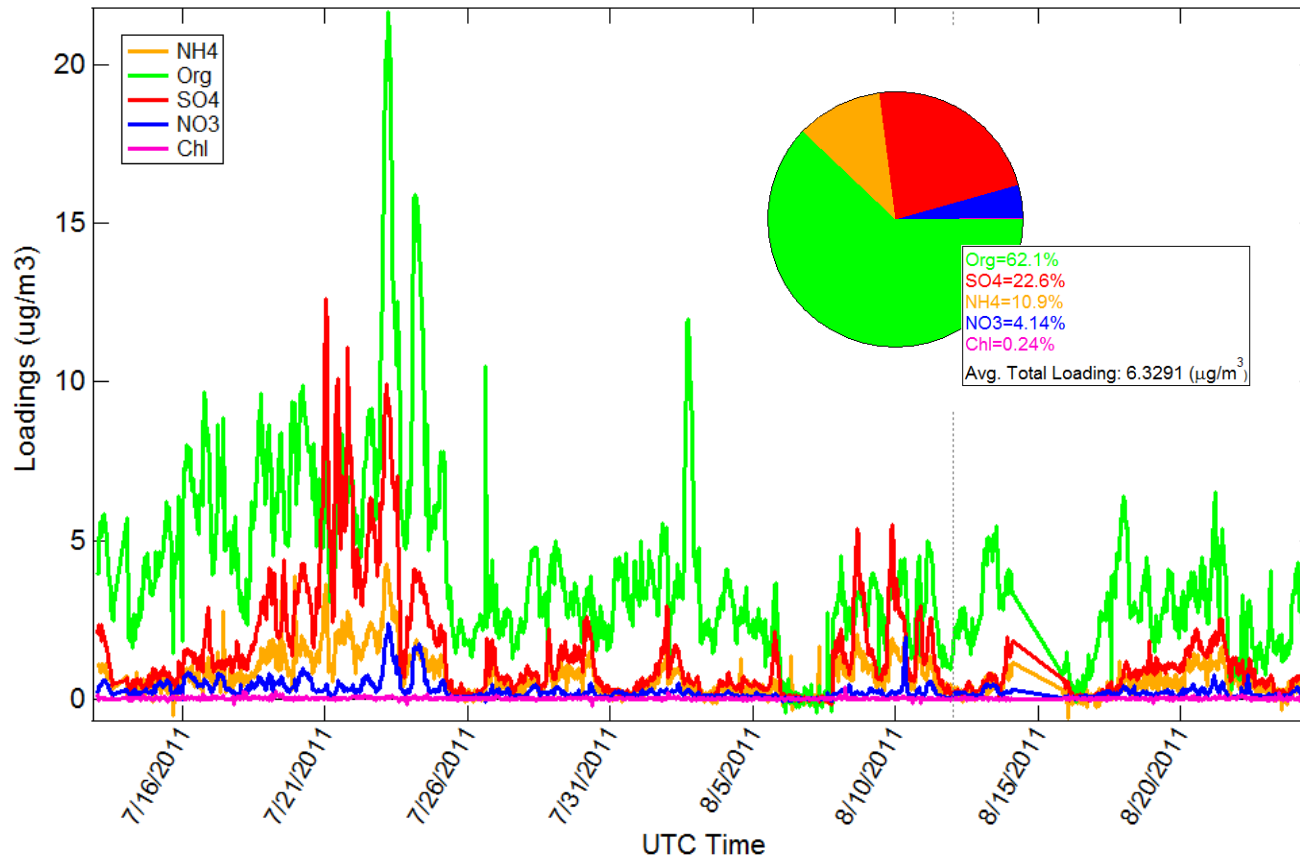


Aerosol Chemical Speciation Monitor (ACSM)



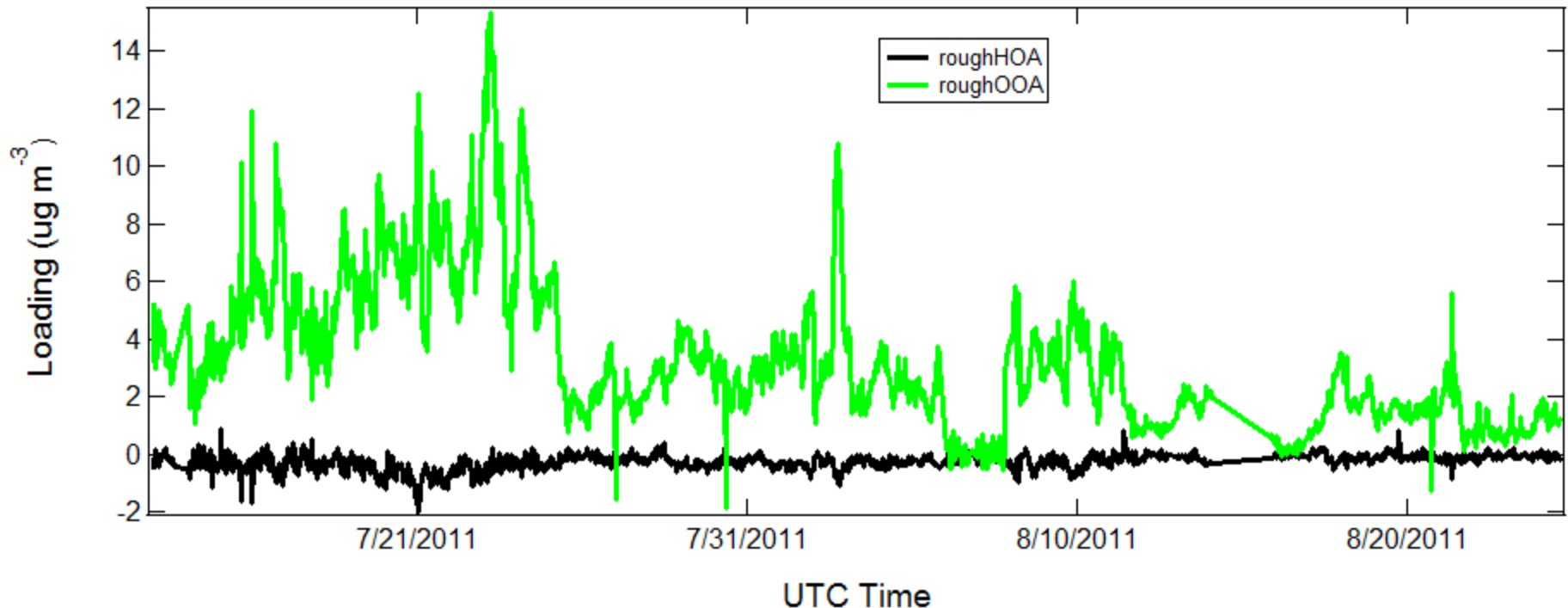
- Time resolution ~30 min
- Background signal obtained with filtered air
- Limits of detection ($\mu\text{g}/\text{m}^3$):
 - ❖ Organic: 0.3
 - ❖ Sulfate: 0.4
 - ❖ Nitrate: 0.2
 - ❖ Ammonium: 0.5
 - ❖ Chloride: 0.2

Time series mass loading (07/13/2011-08/24/2011)



- Aerosol chemical composition at BNL IOP is dominated by organics.
- Total mass concentration ranged from ~ 2 to $\sim 10 \mu\text{g m}^{-3}$.

Characterizing Organic Components using Poor Men's PMF



PMF analysis shows that organic aerosols are well processed (dominated by OOA).

Comparison of AMS and ACSM on aerosol organics and sulfate

- AMS and ACSM show good agreement in mass loading trends
- However, AMS mass loading is a factor of 1.3 higher than that of ACSM
- The cause of difference is under investigation

