Aerosol Chemical Speciation Monitor (ACSM)

- Time resolution ~30 min
- Background signal obtained with filtered air
- Limits of detection (μg/m³):
  - 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 ~10 µg m\(^{-3}\).
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