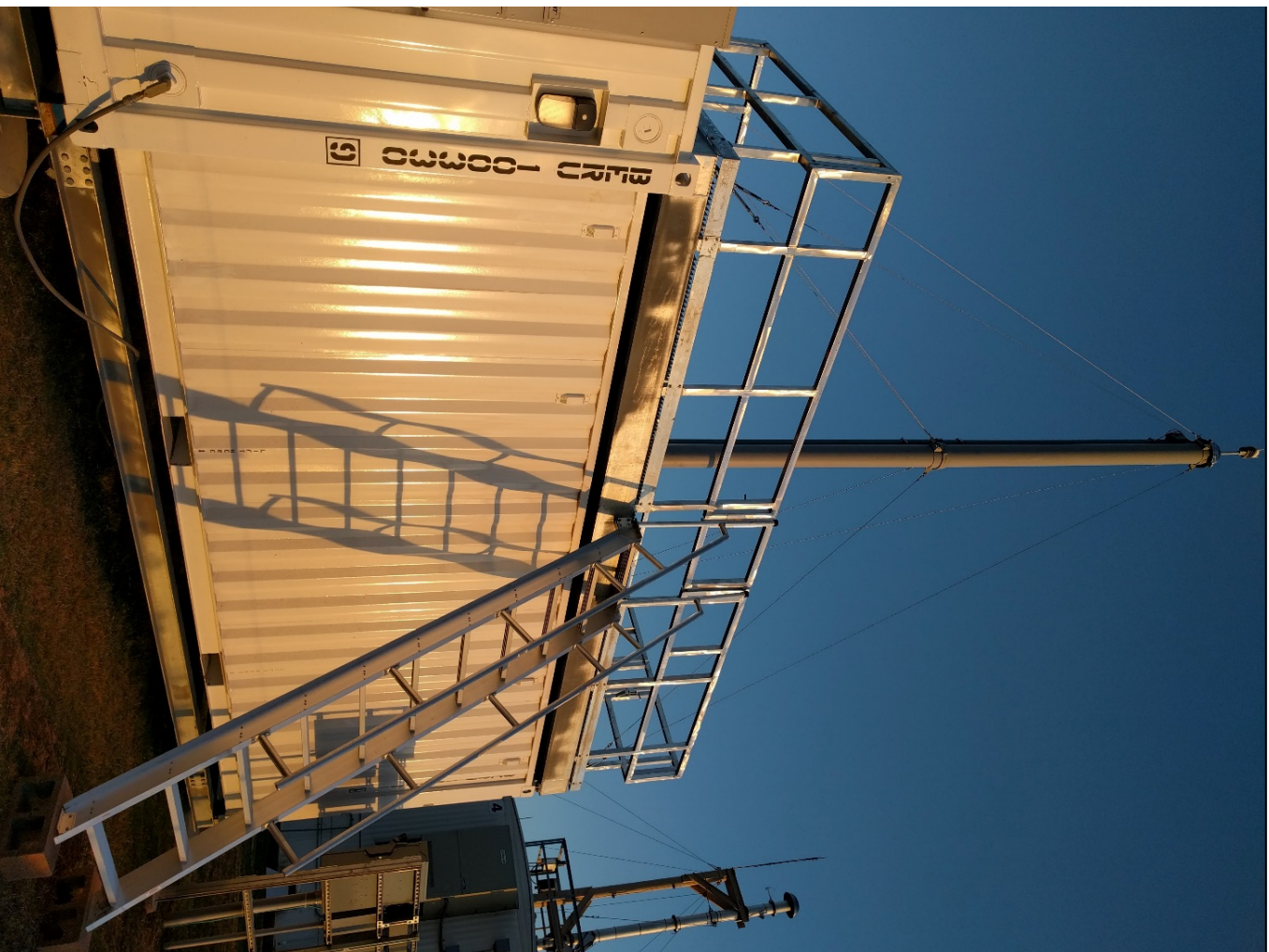
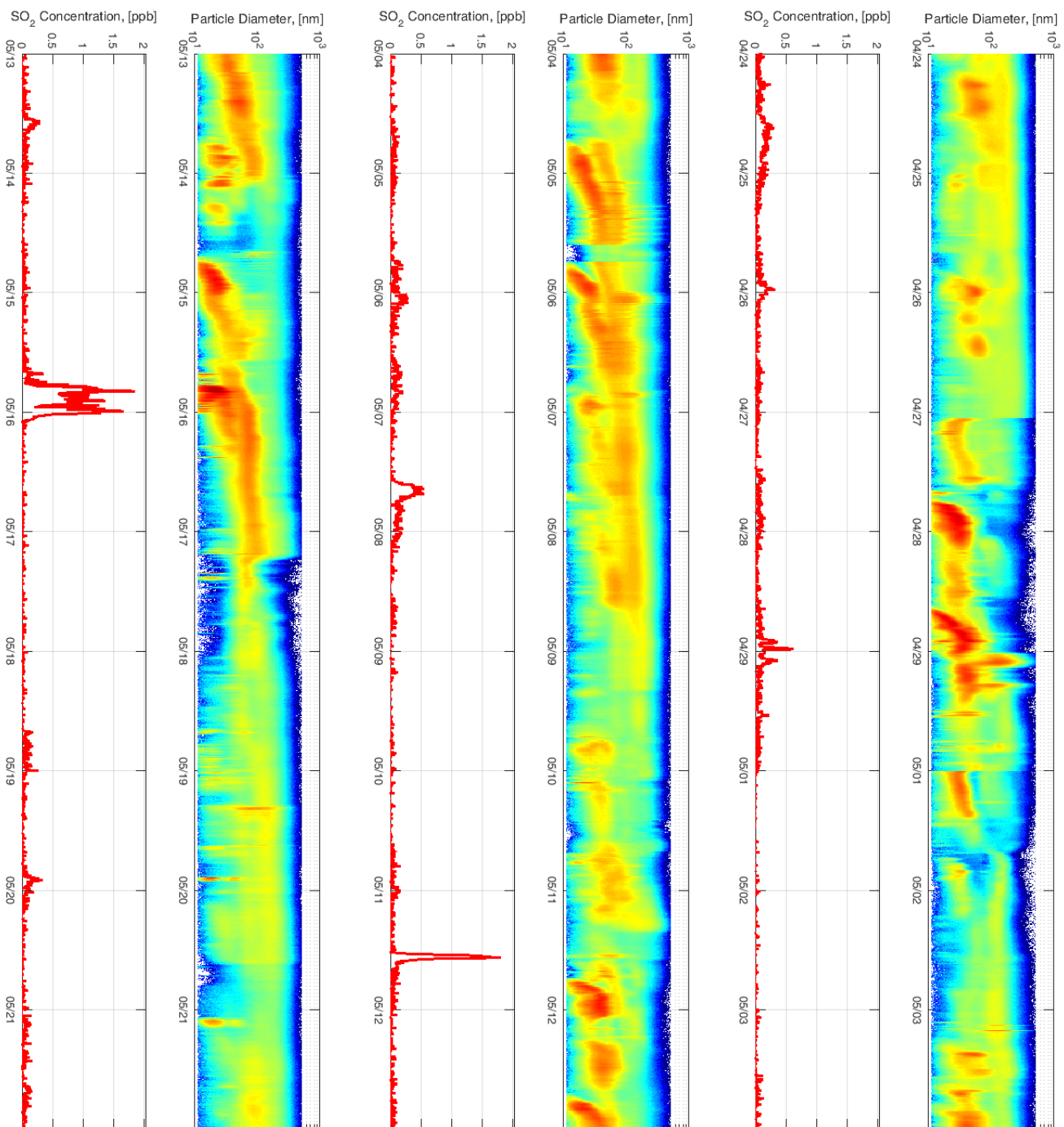


## HISCAL E IOP 1 : 2016.04.24 – 2016.05.21

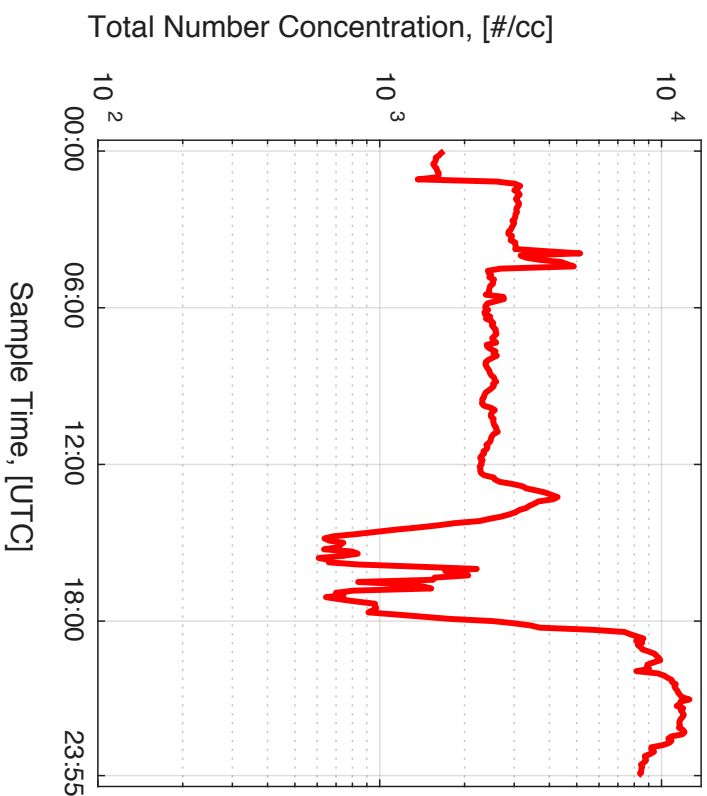
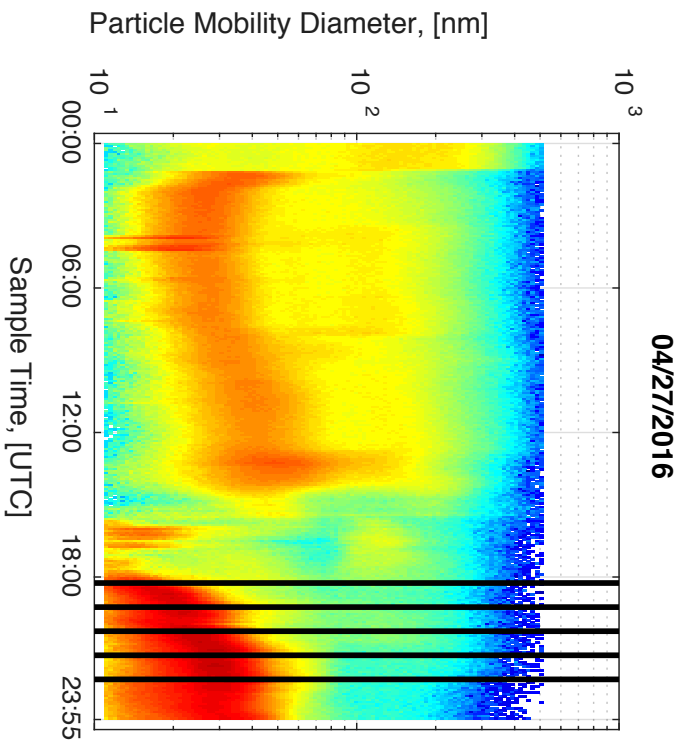


- Deployment of the following instrumentation:
  - Nano Scanning Mobility Particle Sizer (**3 – 50 nanometers**)
  - Scanning Mobility Particle Sizer (**10 – 500 nanometers**)
  - Ultra High Sensitivity Aerosol Spectrometer(**50 – 1000 nanometers**)
  - Aerodynamic Particle Sizer(**0.5 – 20 microns**)
  - SO<sub>2</sub> monitor
  - Fine CPC: > 10 nanometers
  - Ultrafine CPC: > 2.5 nanometers

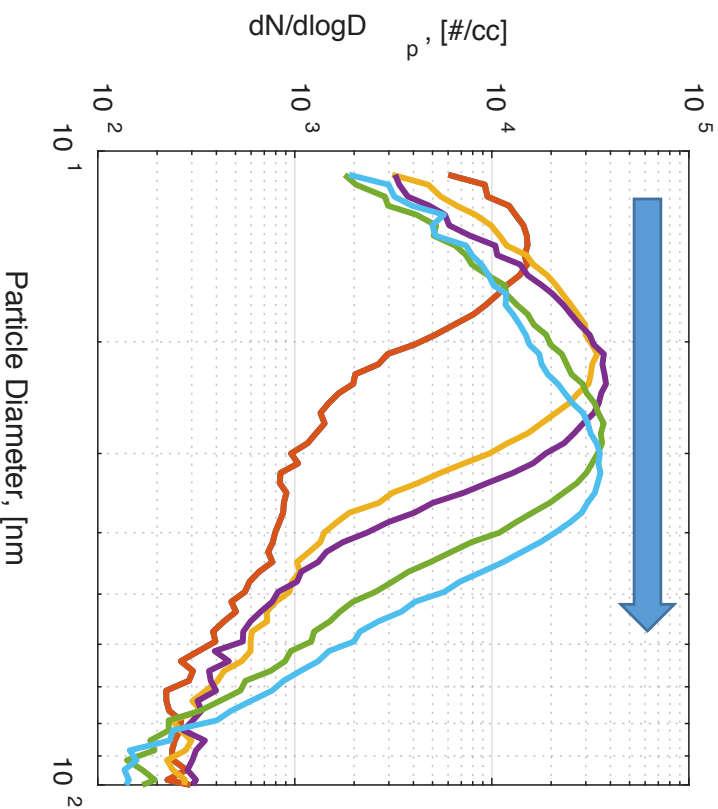
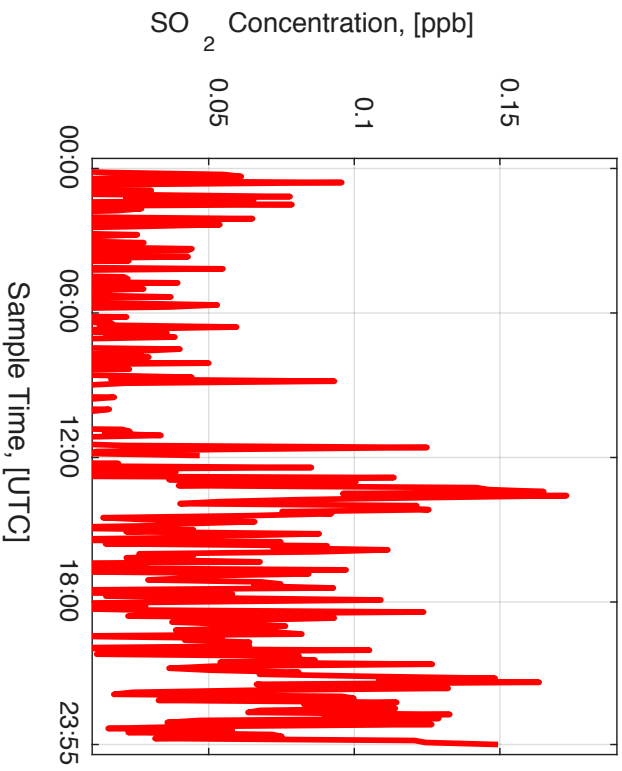
# IOP1 Campaign Composite



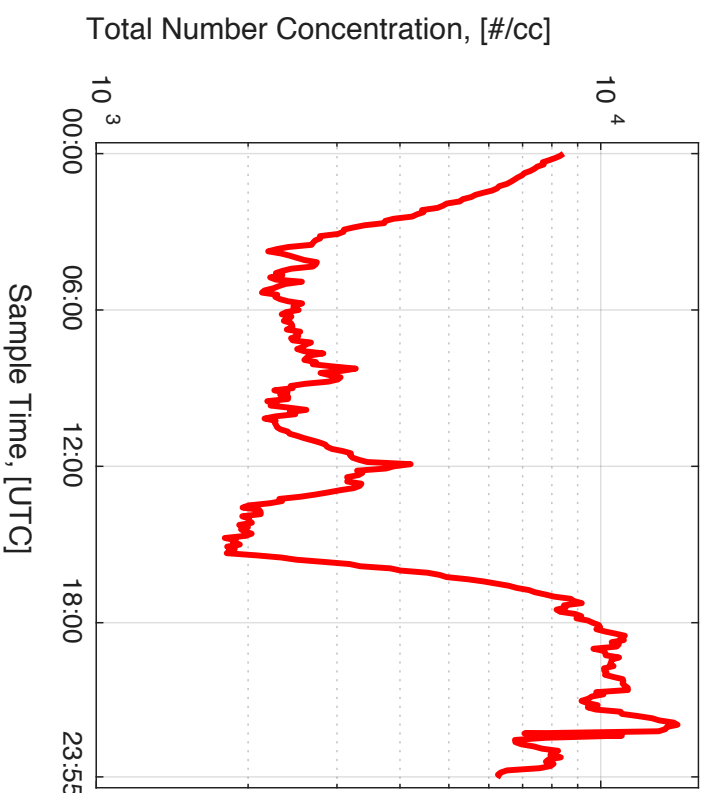
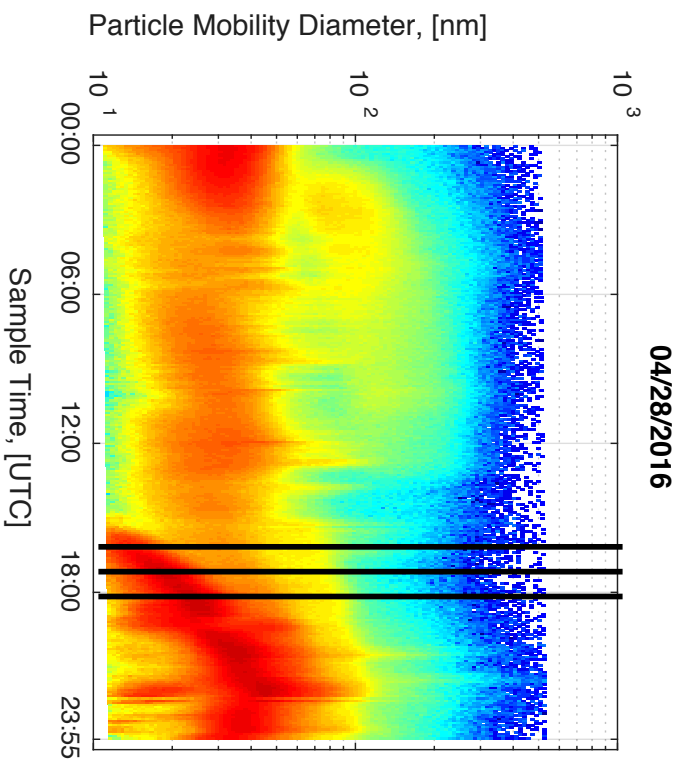
- 27 measurement days: 9 NPF events:
  - 04/27, 04/28, 04/30, 05/04, 05/05, 05/11, 05/12, 05/14, 05/15
- SO<sub>2</sub> has some correlation with NPF: max at 2 ppb
- Growth rates: 1 – 10 nm/hr
- NPF and growth spanning several days



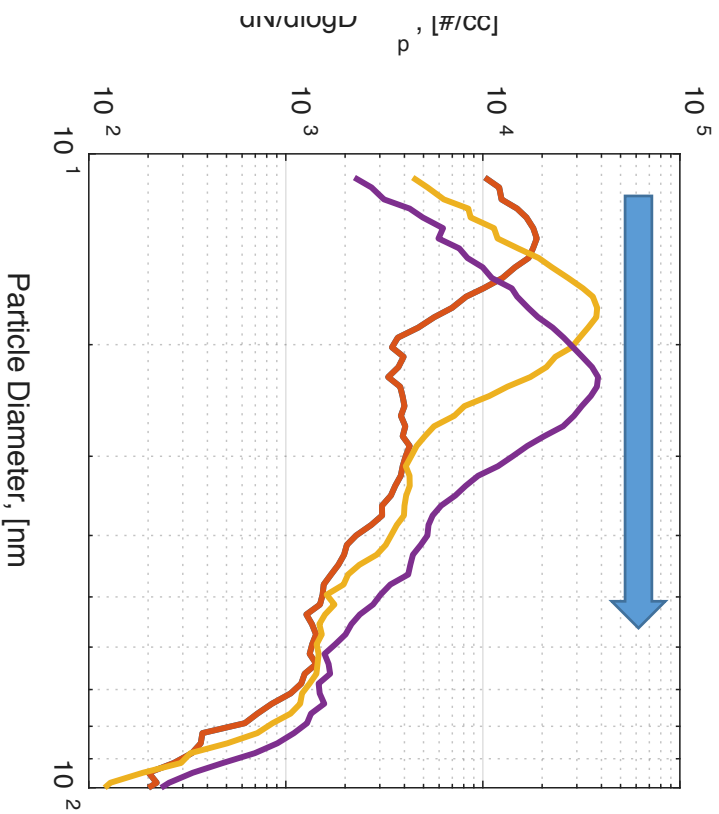
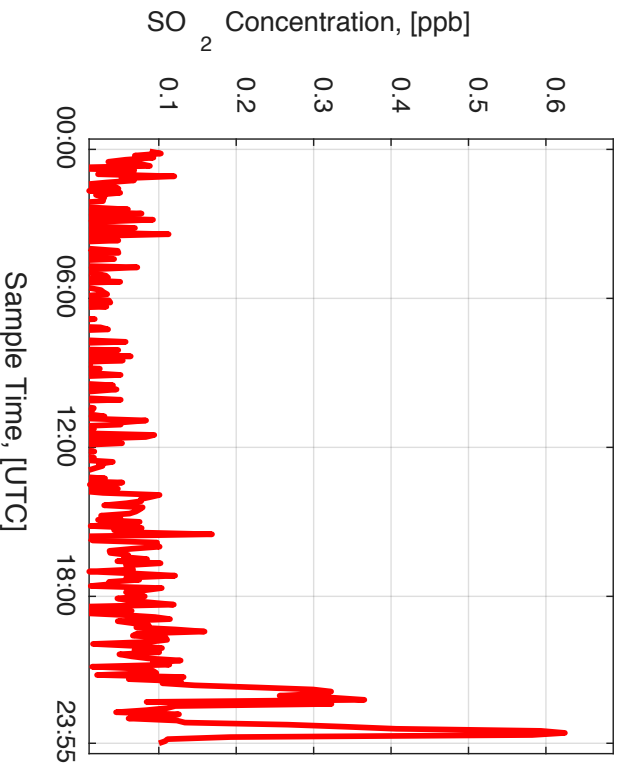
- ~ 10X increase in number conc.



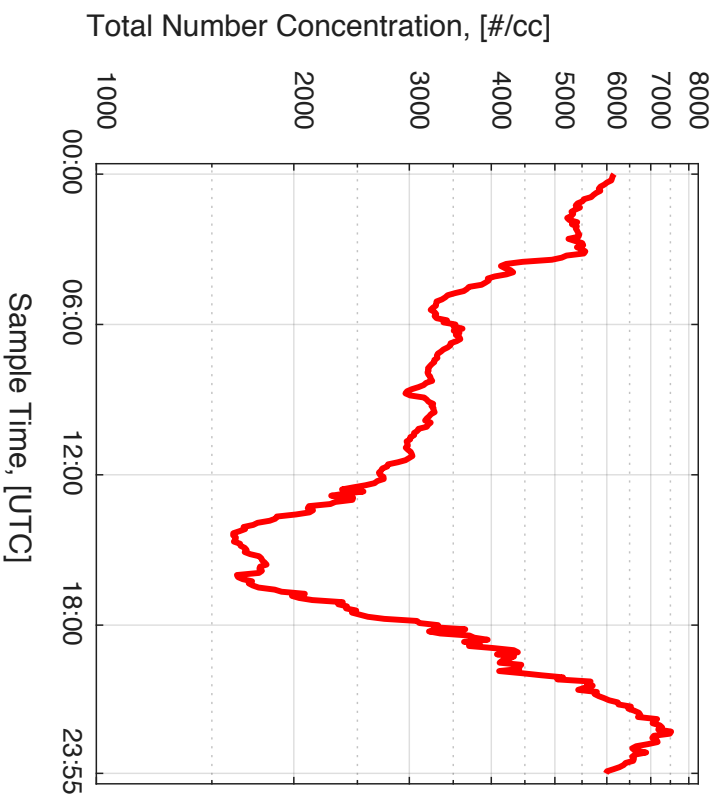
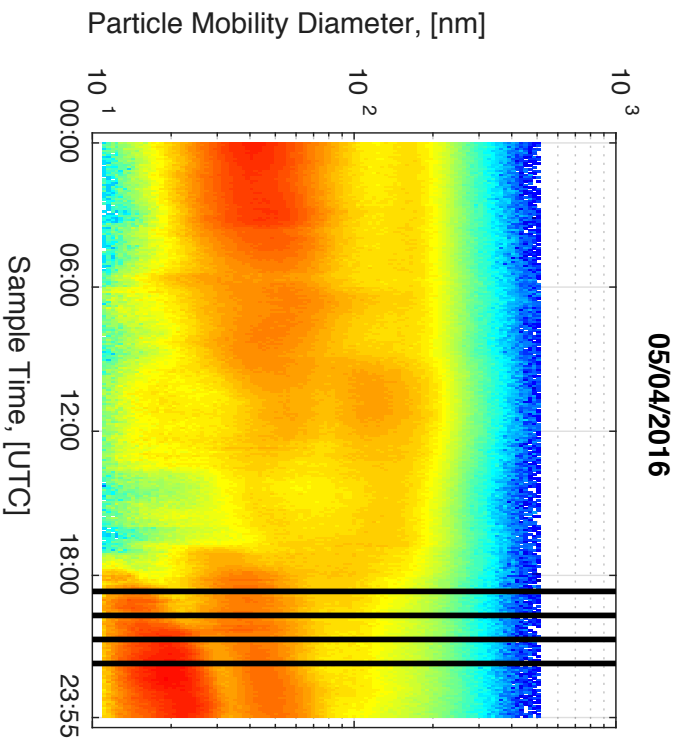
- ~ 3 – 6 nm/hour
- Comparison with sulfuric-acid limited growth rate?



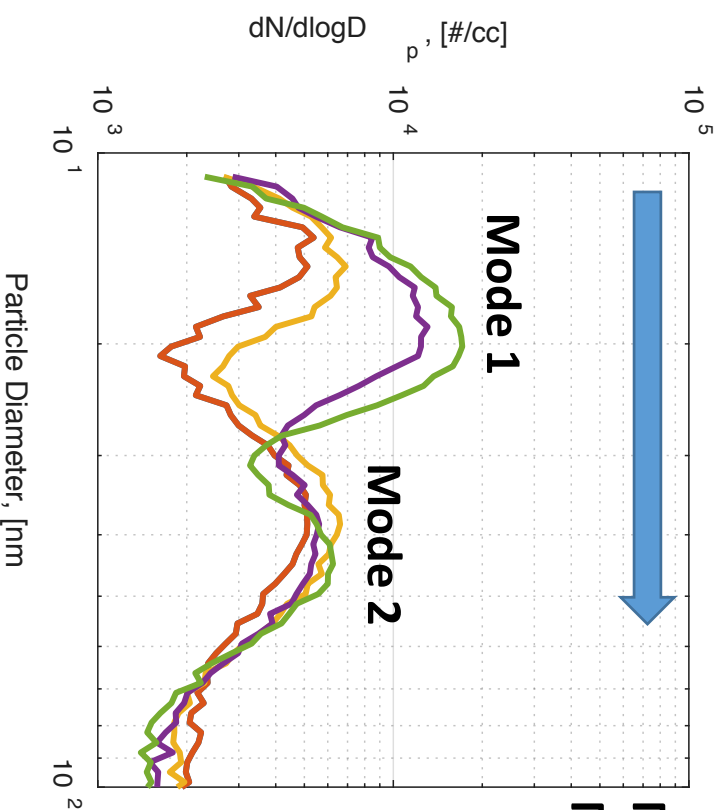
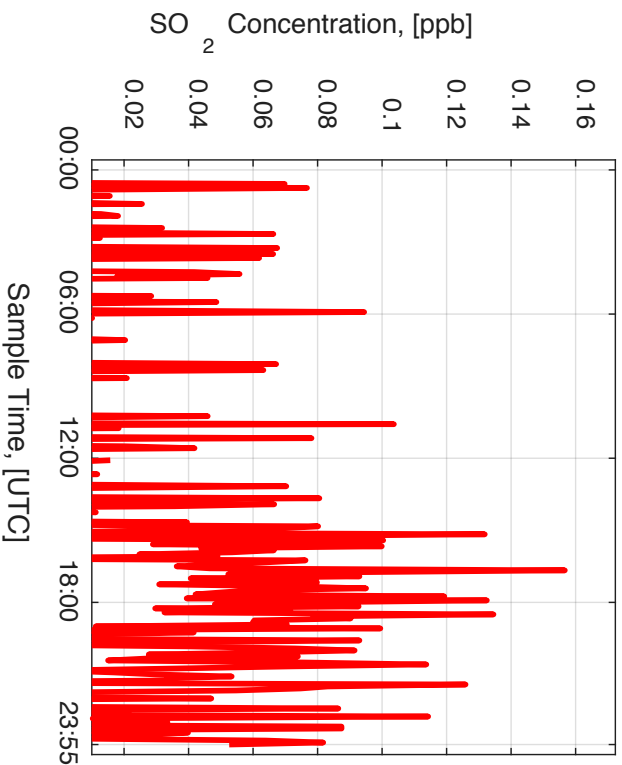
- ~ 5X increase in number conc.



- ~ 4 – 5 nm/hour
- Comparison with sulfuric-acid limited growth rate?

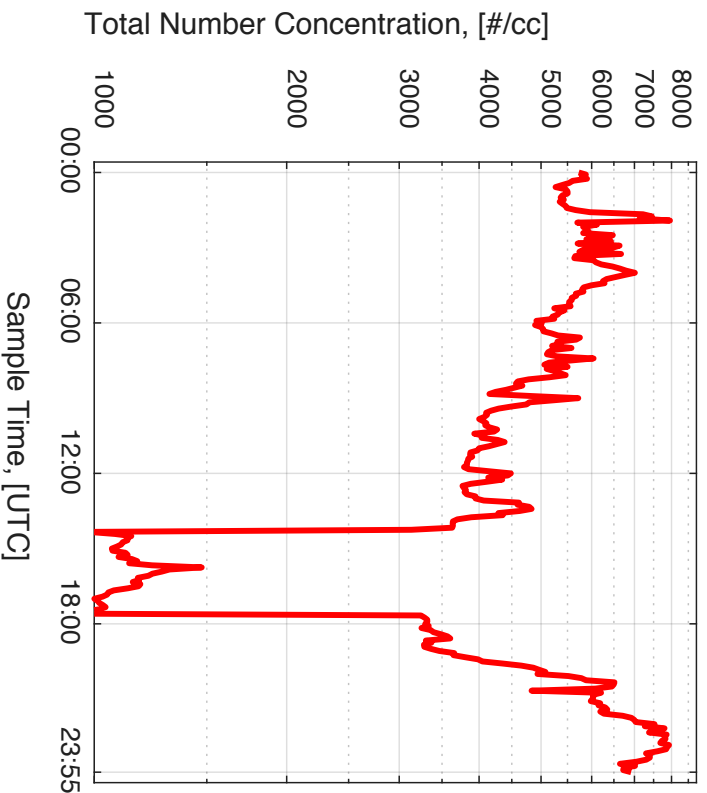
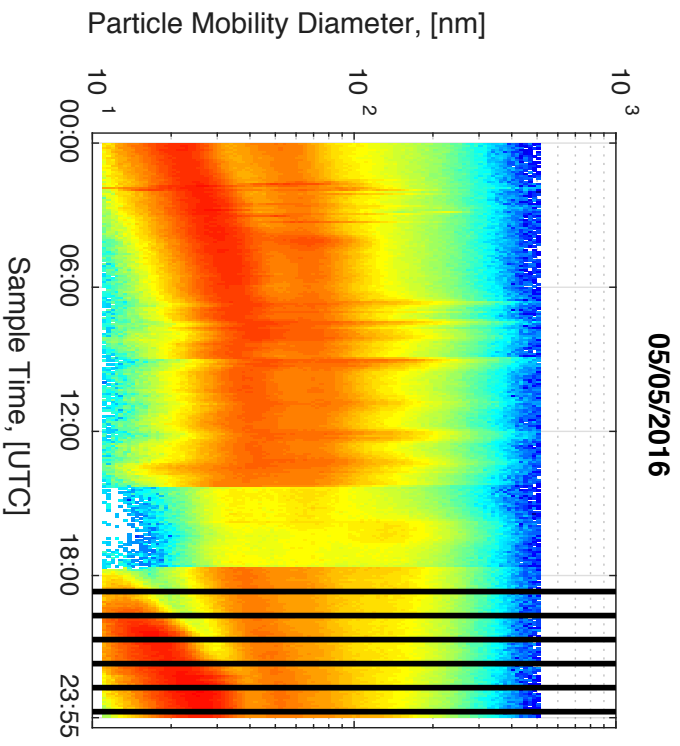


- ~ 5X increase in number conc.

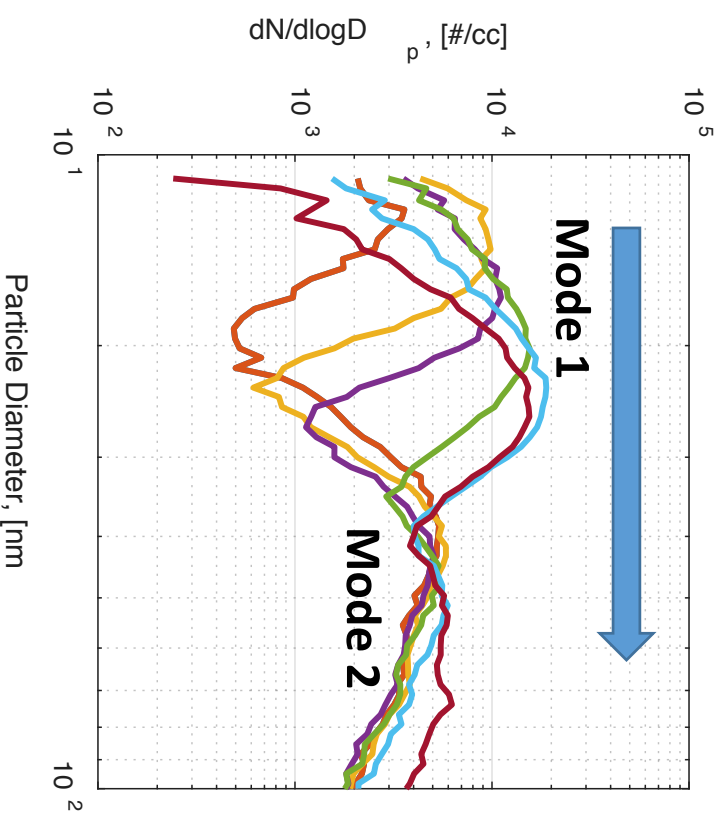
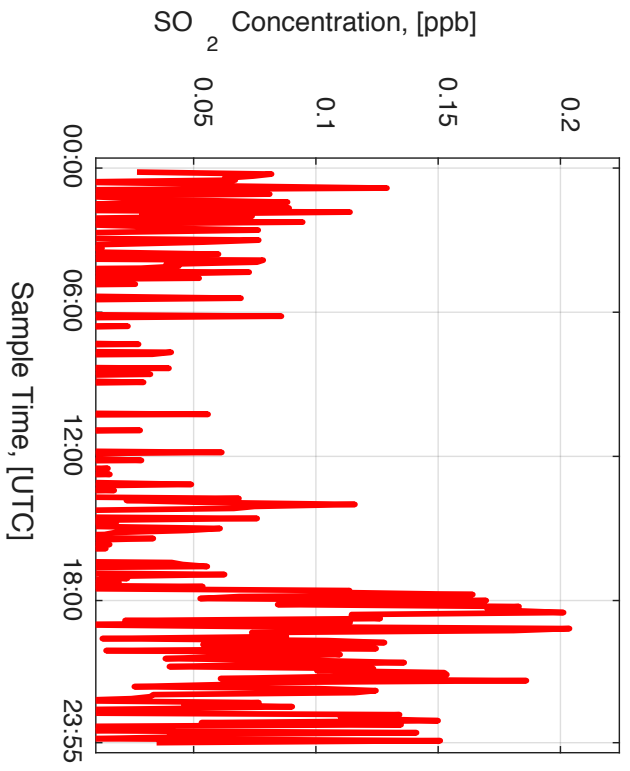


**Mode 1: 2-3 nm/hr**  
**Mode 2: ~ 6 nm/hr**

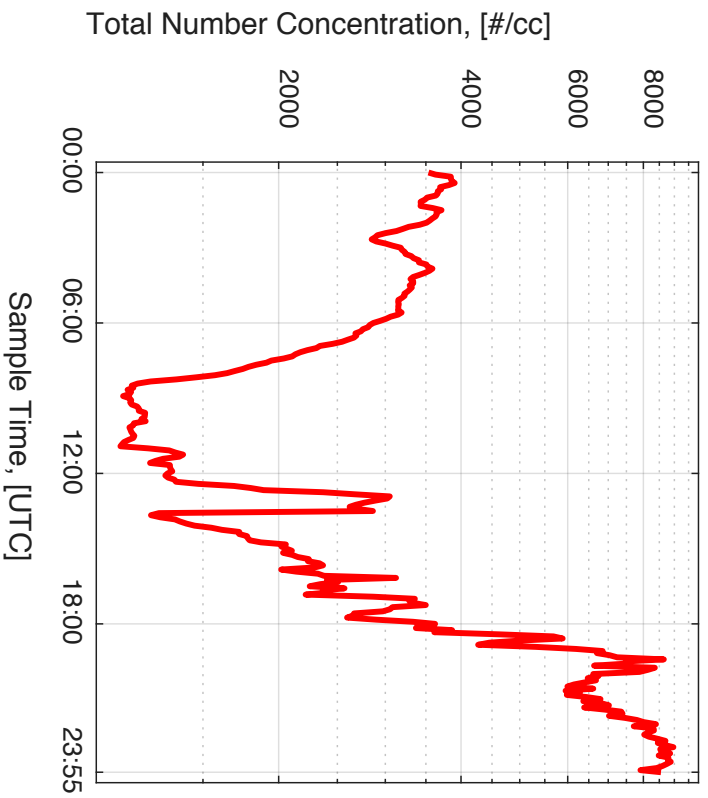
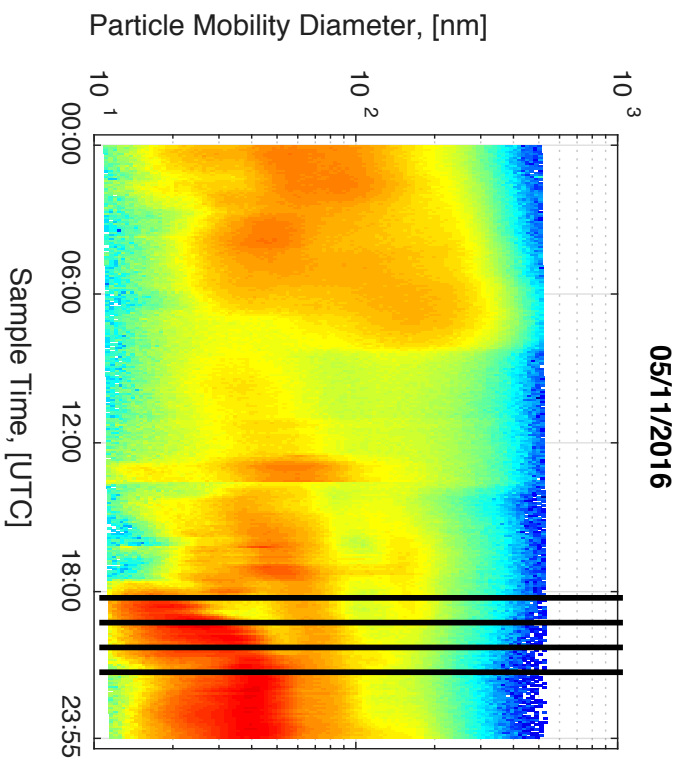




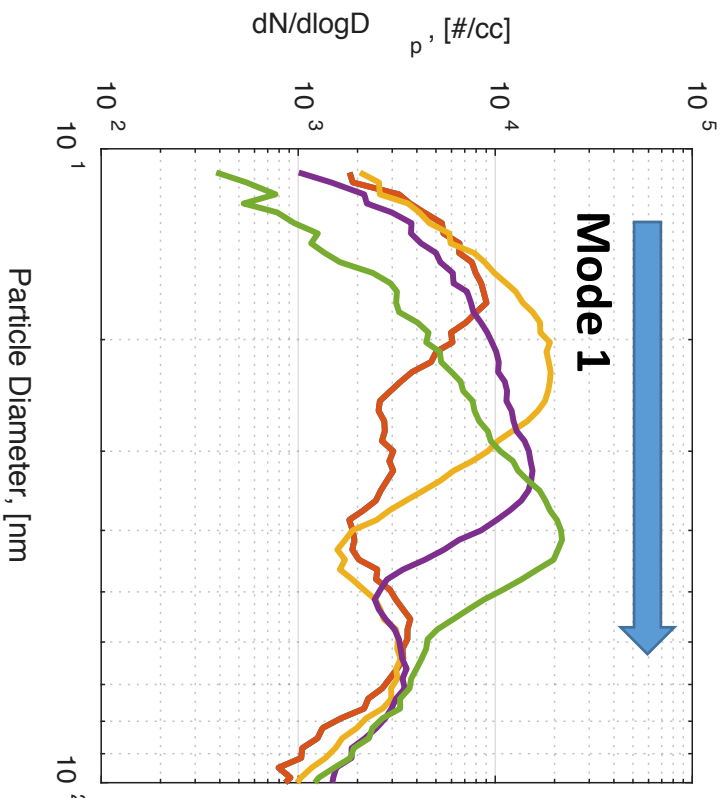
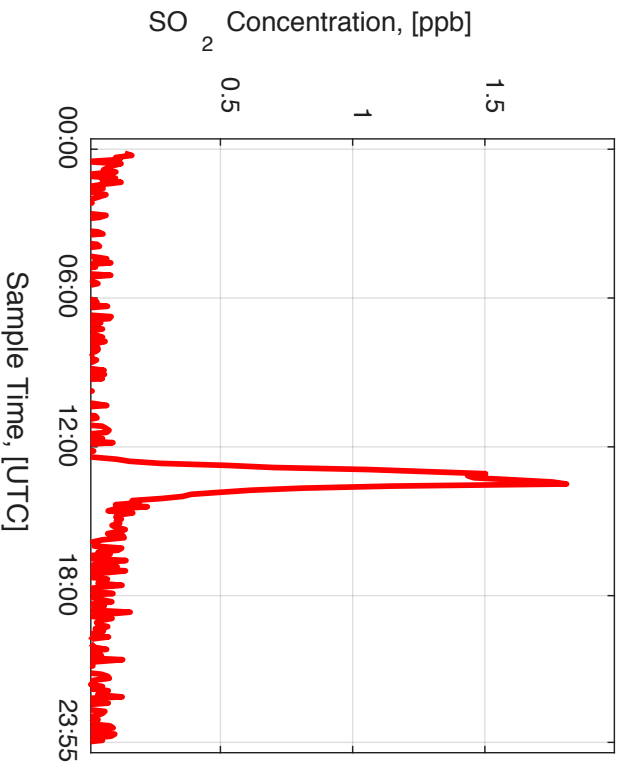
- ~ 2X increase in number conc.



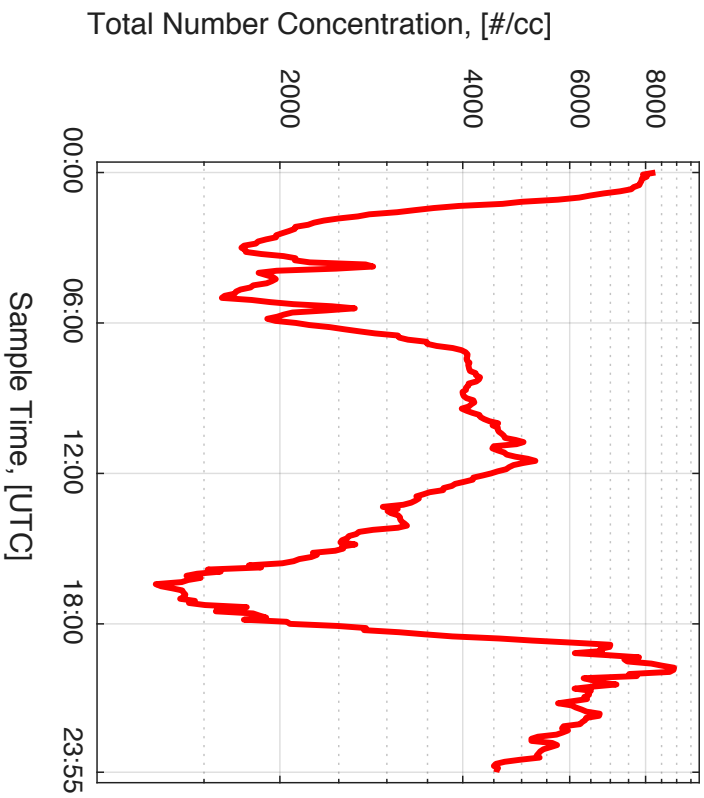
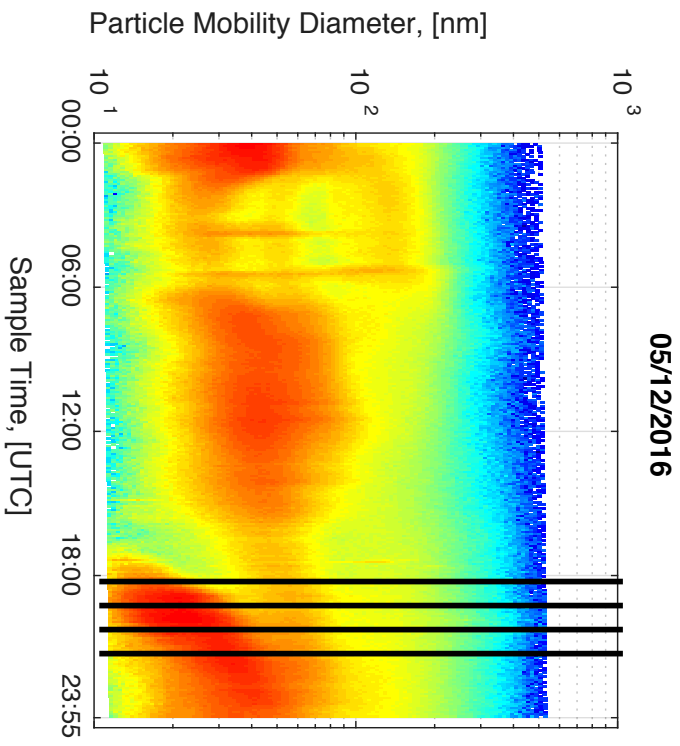
Mode 1: 2-4 nm/hr  
 Mode 2: ~ 5 nm/hr



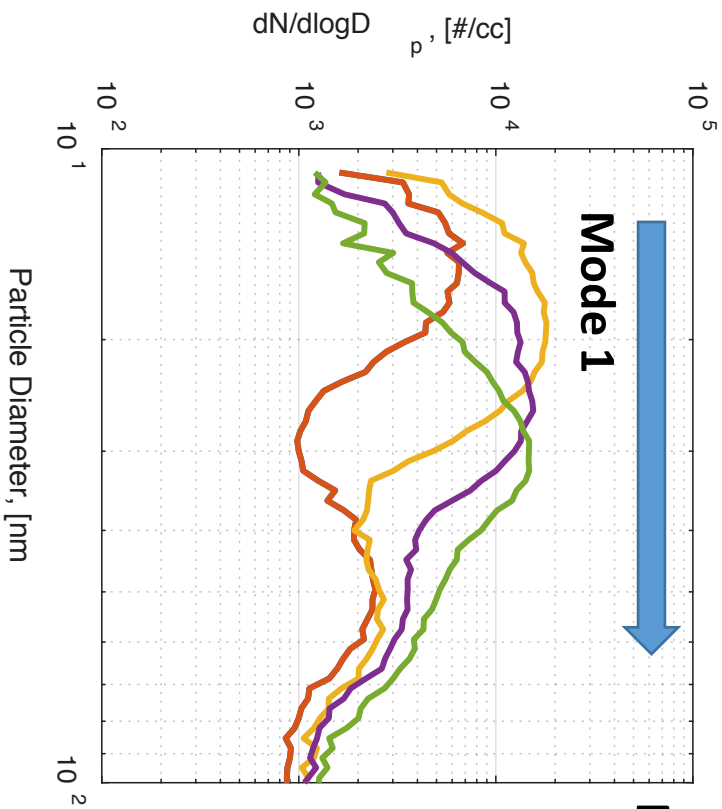
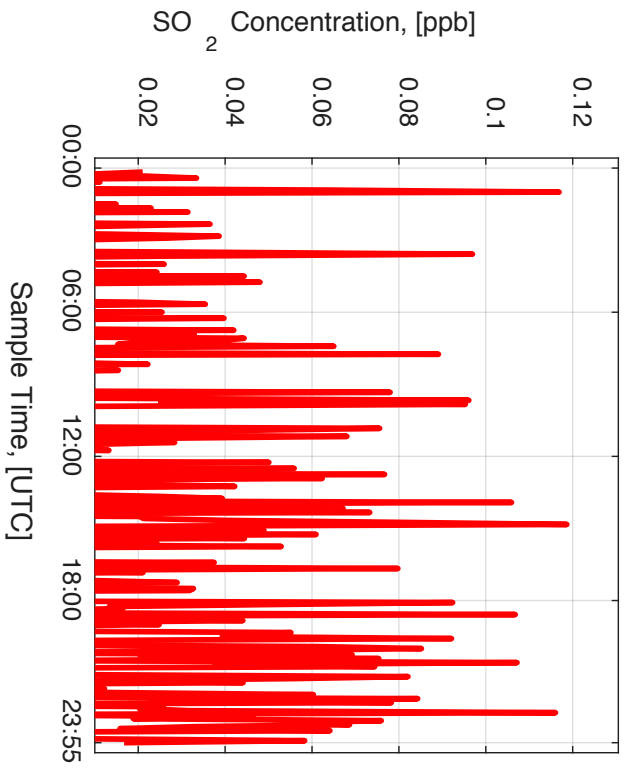
- ~ 8X increase in number conc.



**Mode 1: 5-10 nm/hr**

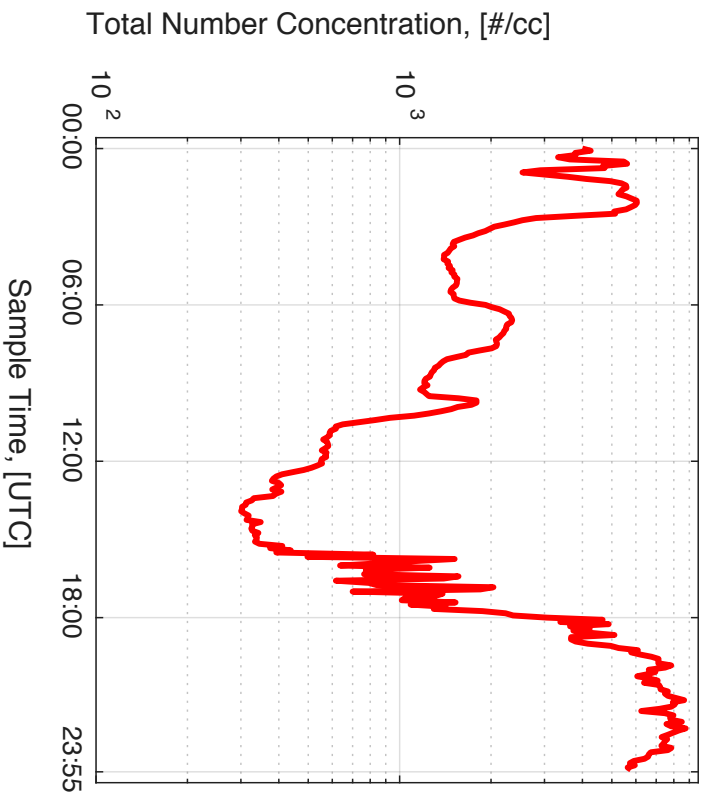
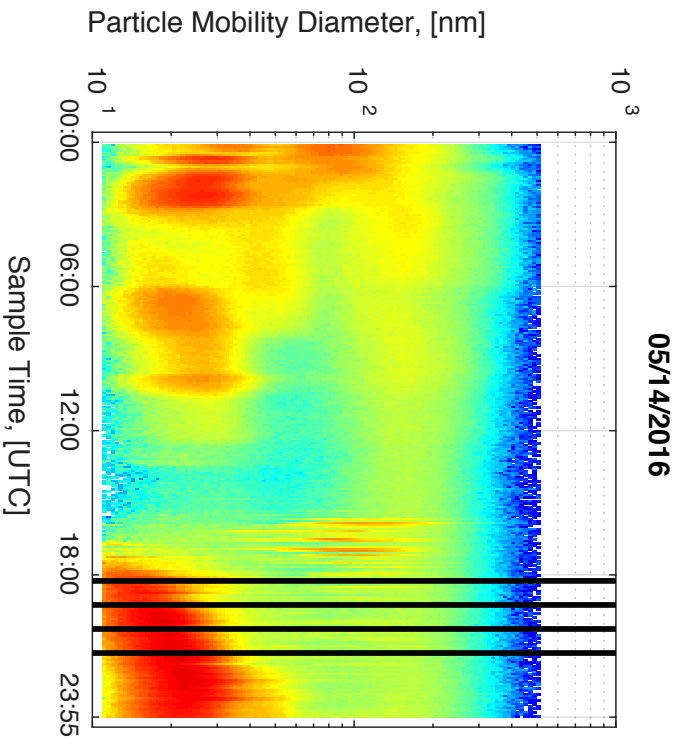


- ~ 5X increase in number conc.

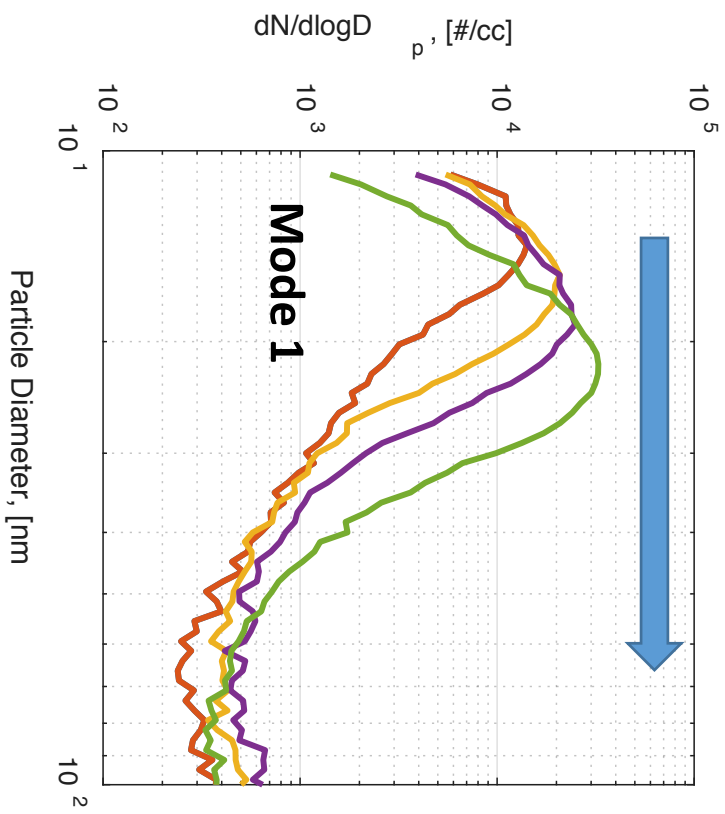
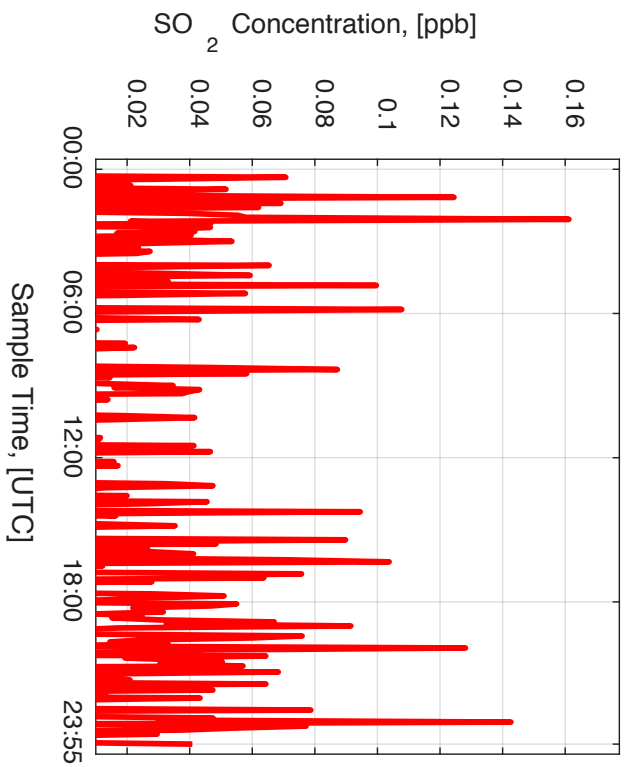


**Mode 1: 4-8 nm/hr**



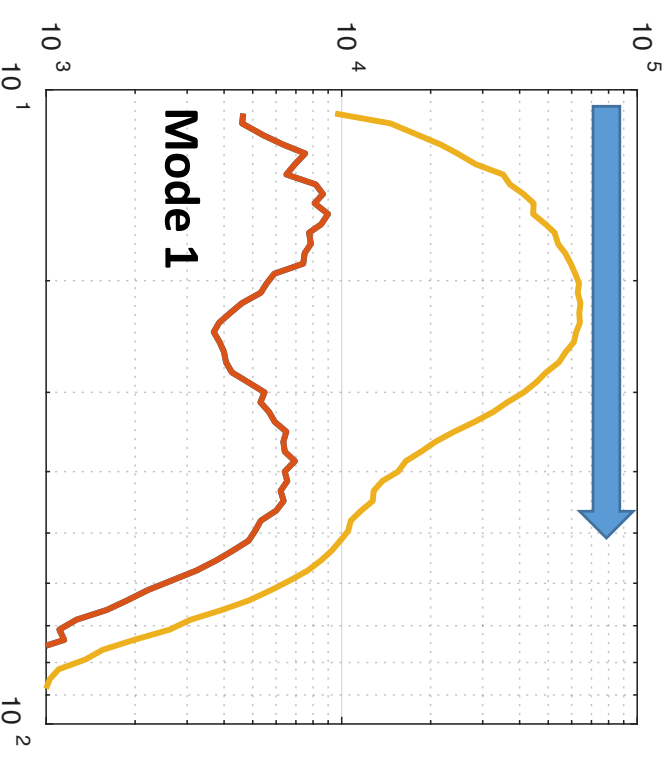
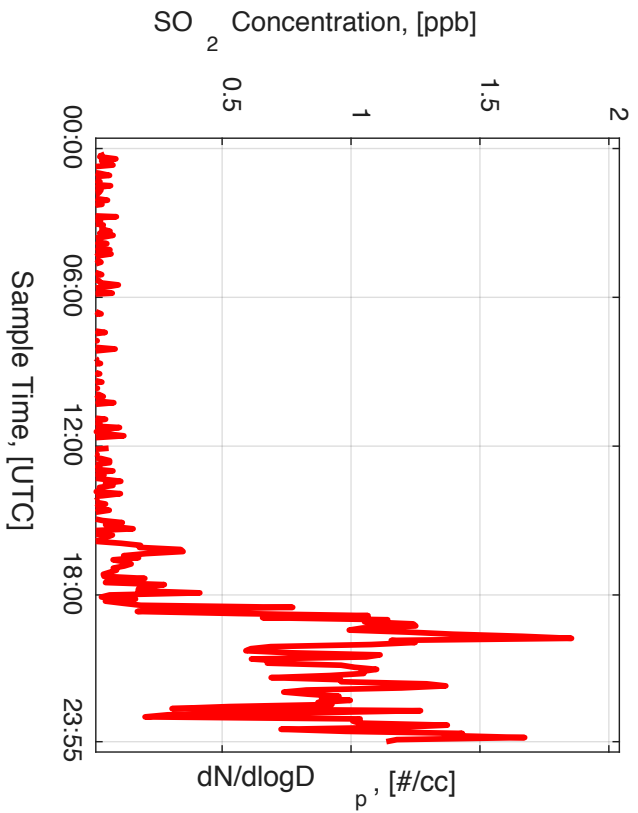
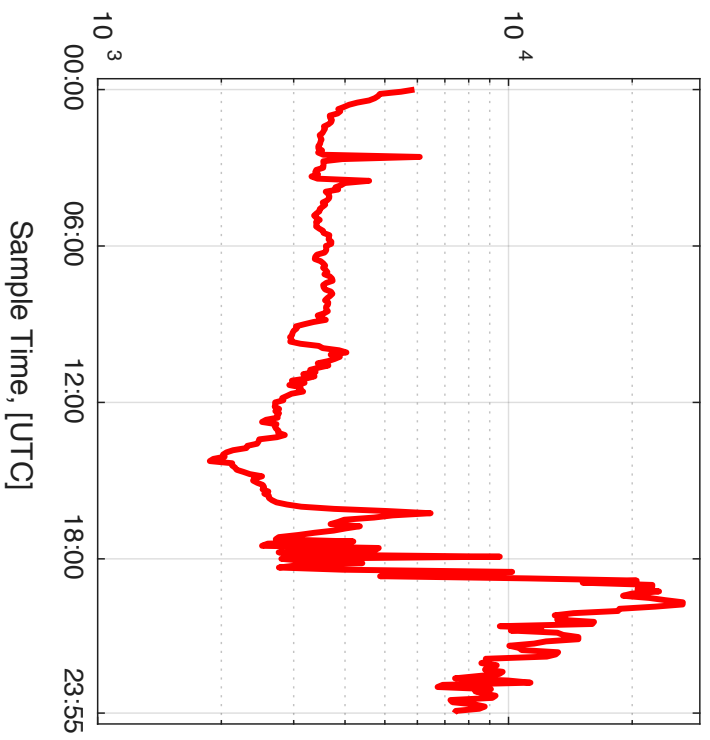
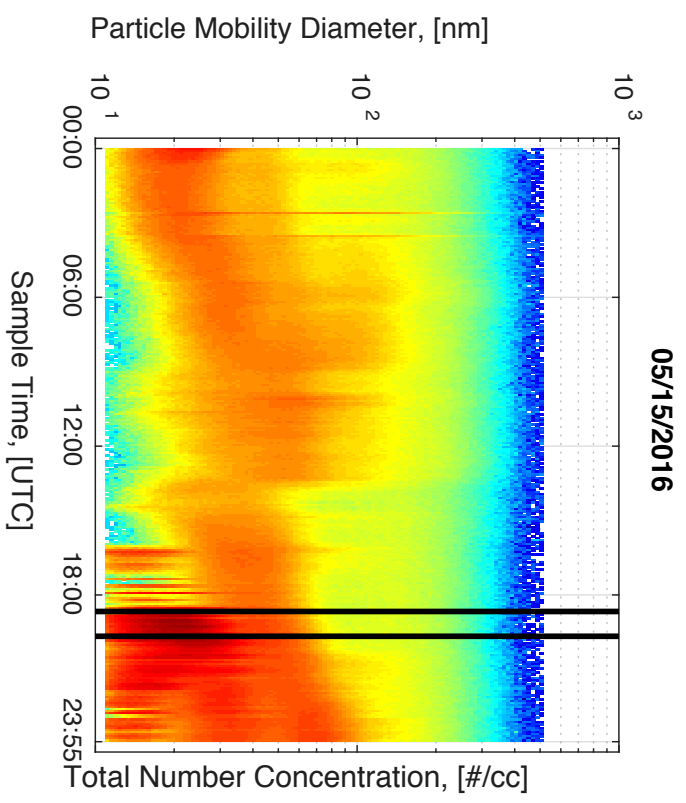


- ~ 10X increase in number conc.



**Mode 1: 1-3 nm/hr**

- ~ 8X increase in number conc.



Mode 1: ~6 nm/hr

# NPF followed by extended growth over several days

