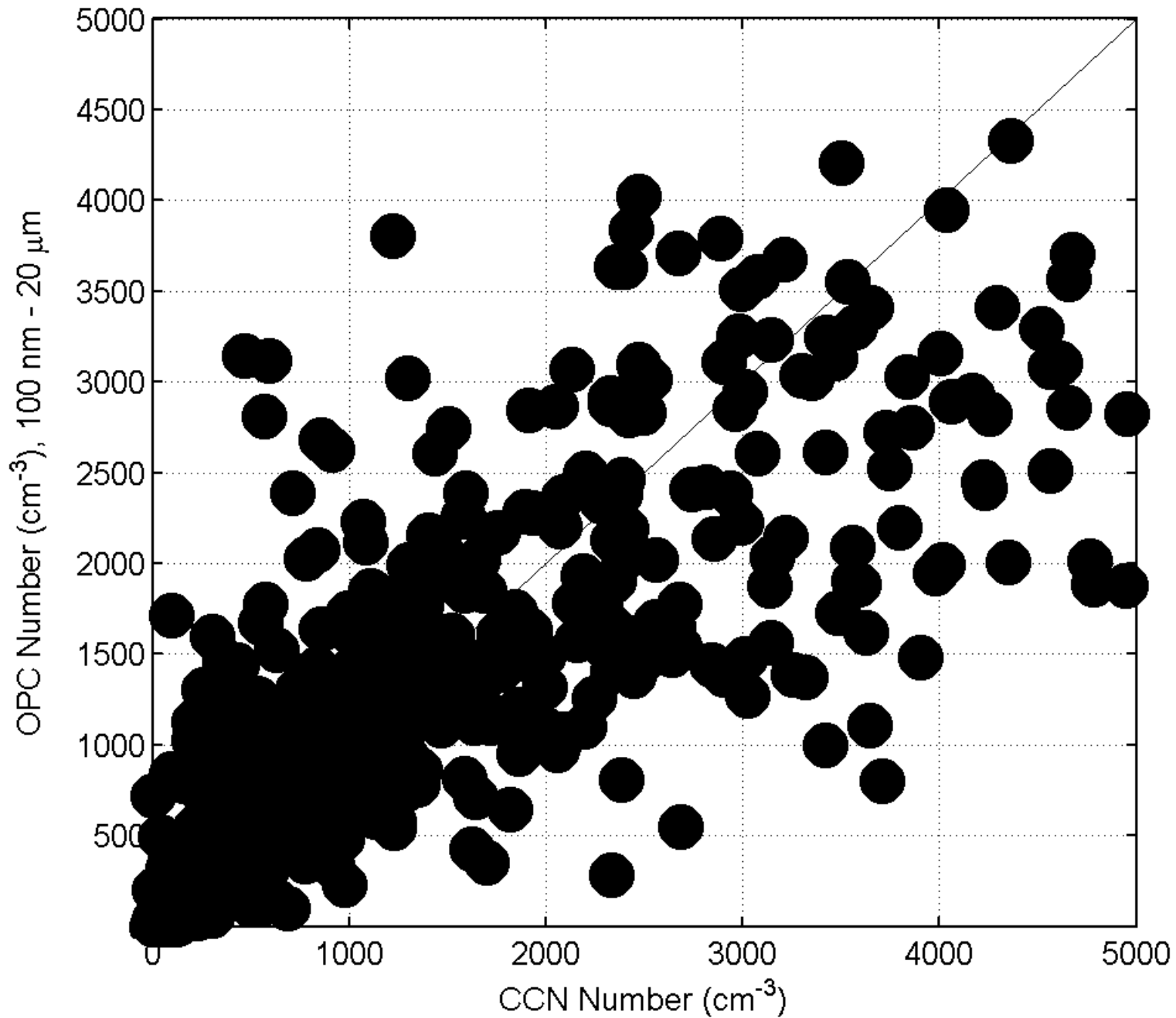


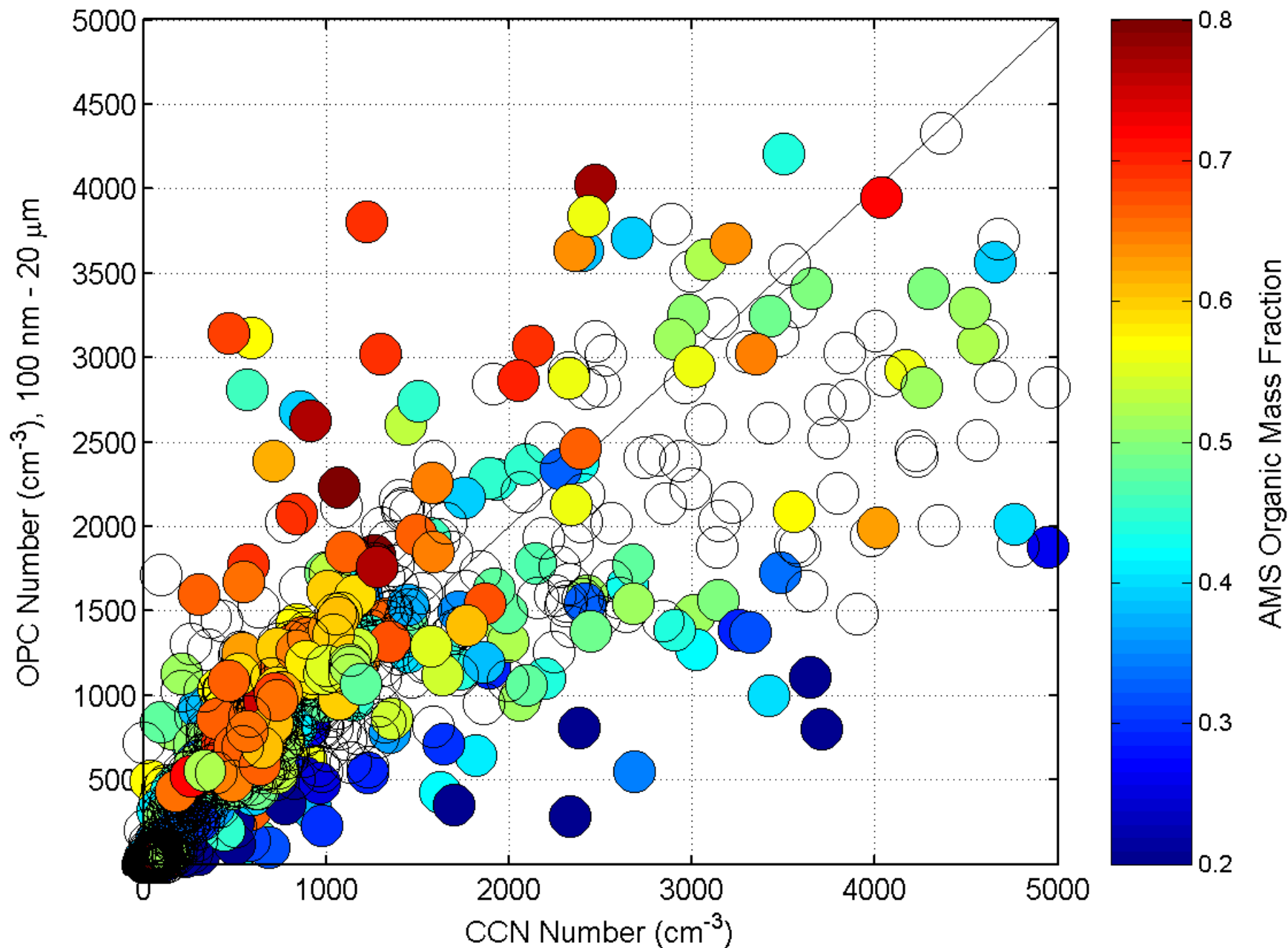
# Relations between size, composition, optical properties and CCN: Airborne measurements in dust, biomass burning and pollution aerosol over North America

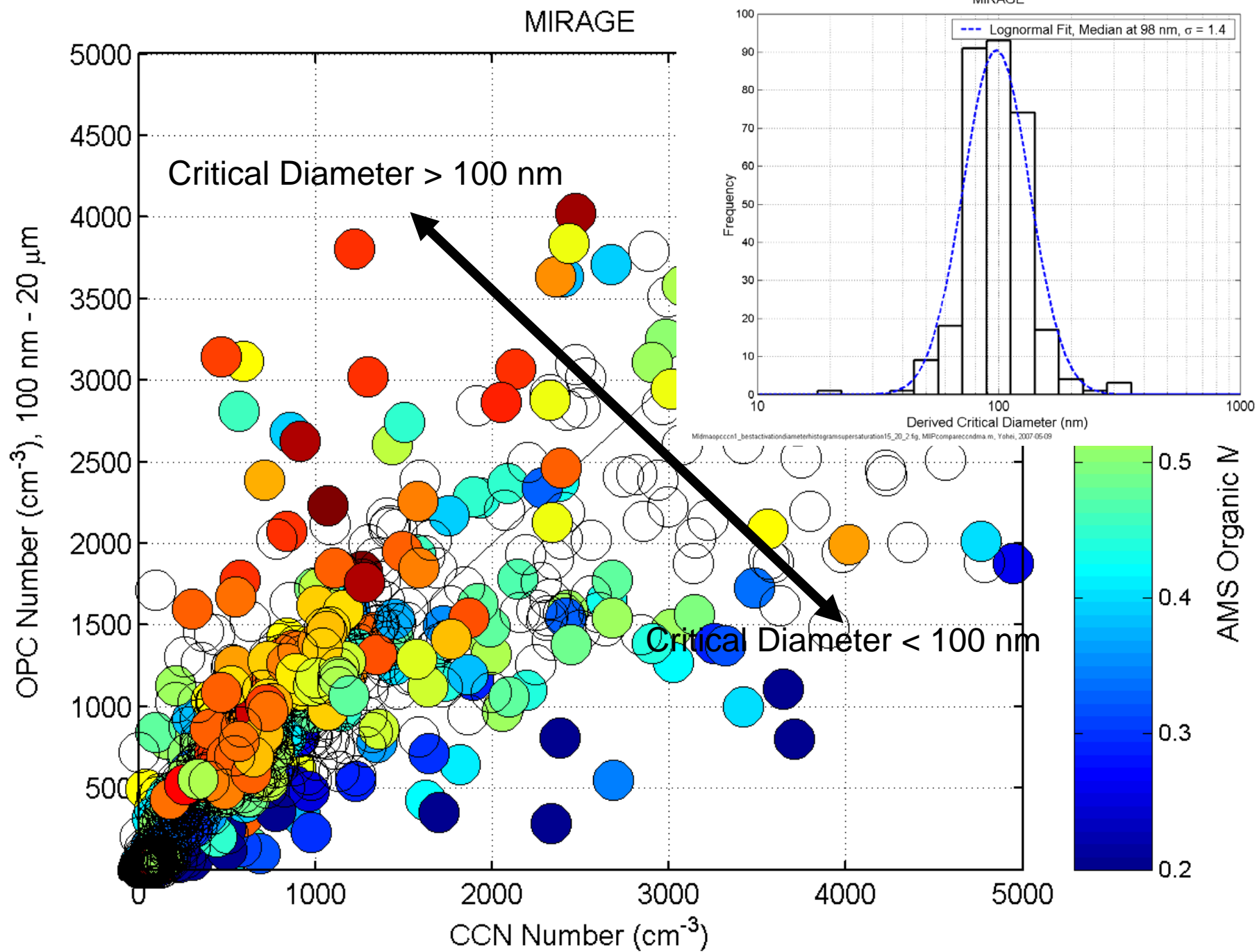
Yohei Shinozuka, Antony Clarke, Steven Howell, Vladimir Kapustin, Jingchuan Zhou, Peter DeCarlo, Jose Jimenez, Greg Roberts, Jason Tomlinson, Don Collins

# MIRAGE



# MIRAGE

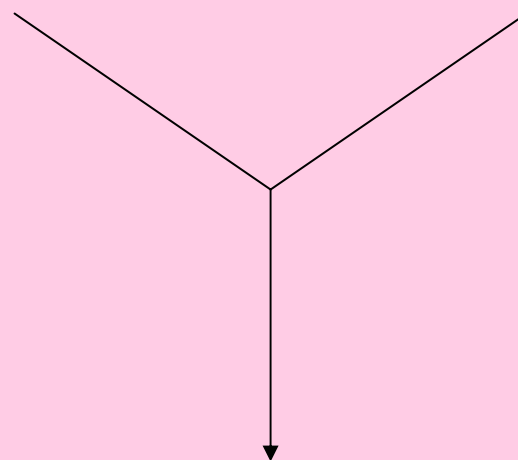




Size Distribution

Chemistry

CCN Concentration



Our goal is to assess the feasibility of satellite CCN observation.

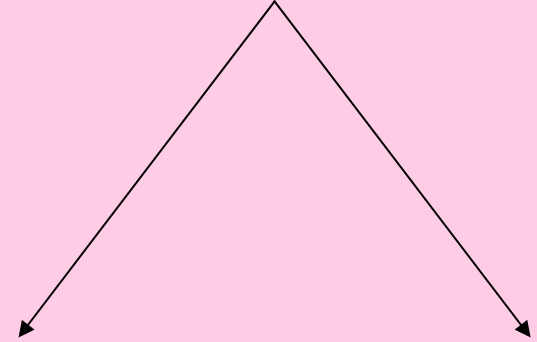
Satellite Observations



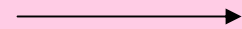
CCN Concentration

Our approach takes 3 steps.

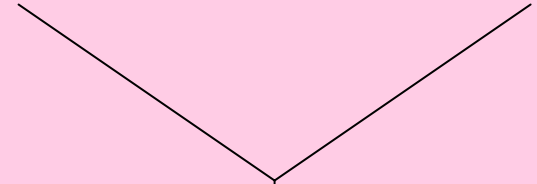
Extinction, SSA



Size Distribution

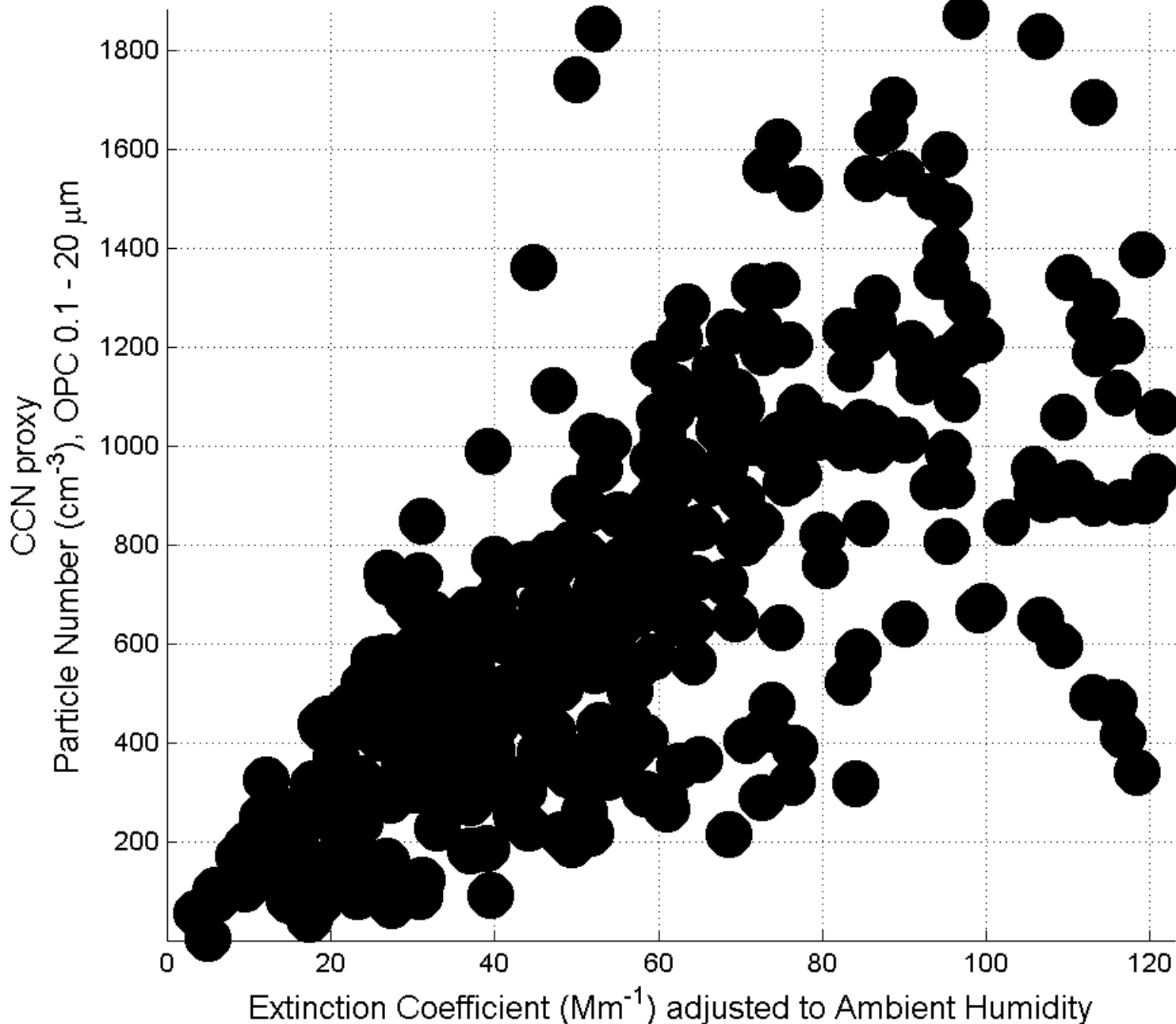


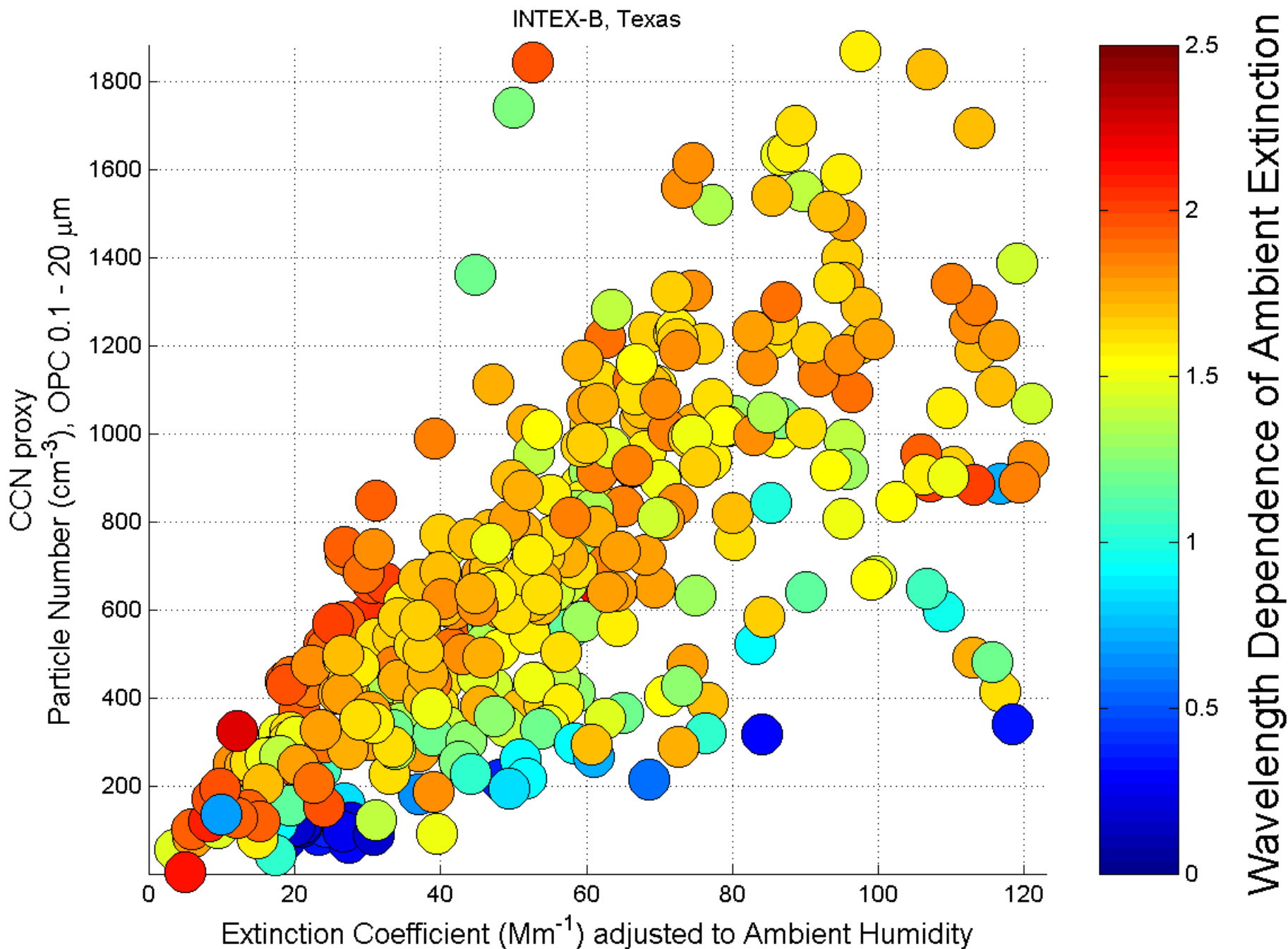
Chemistry

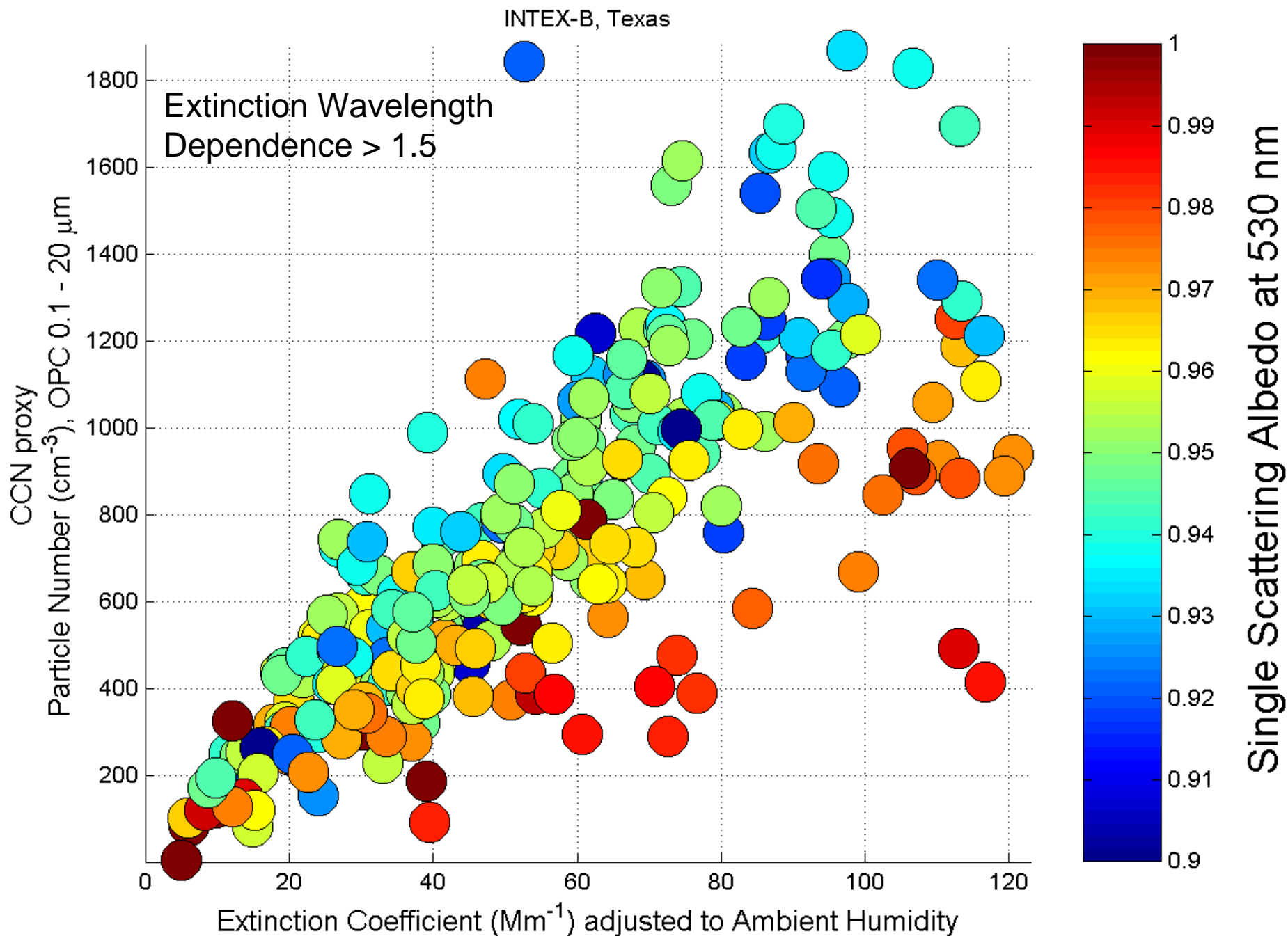


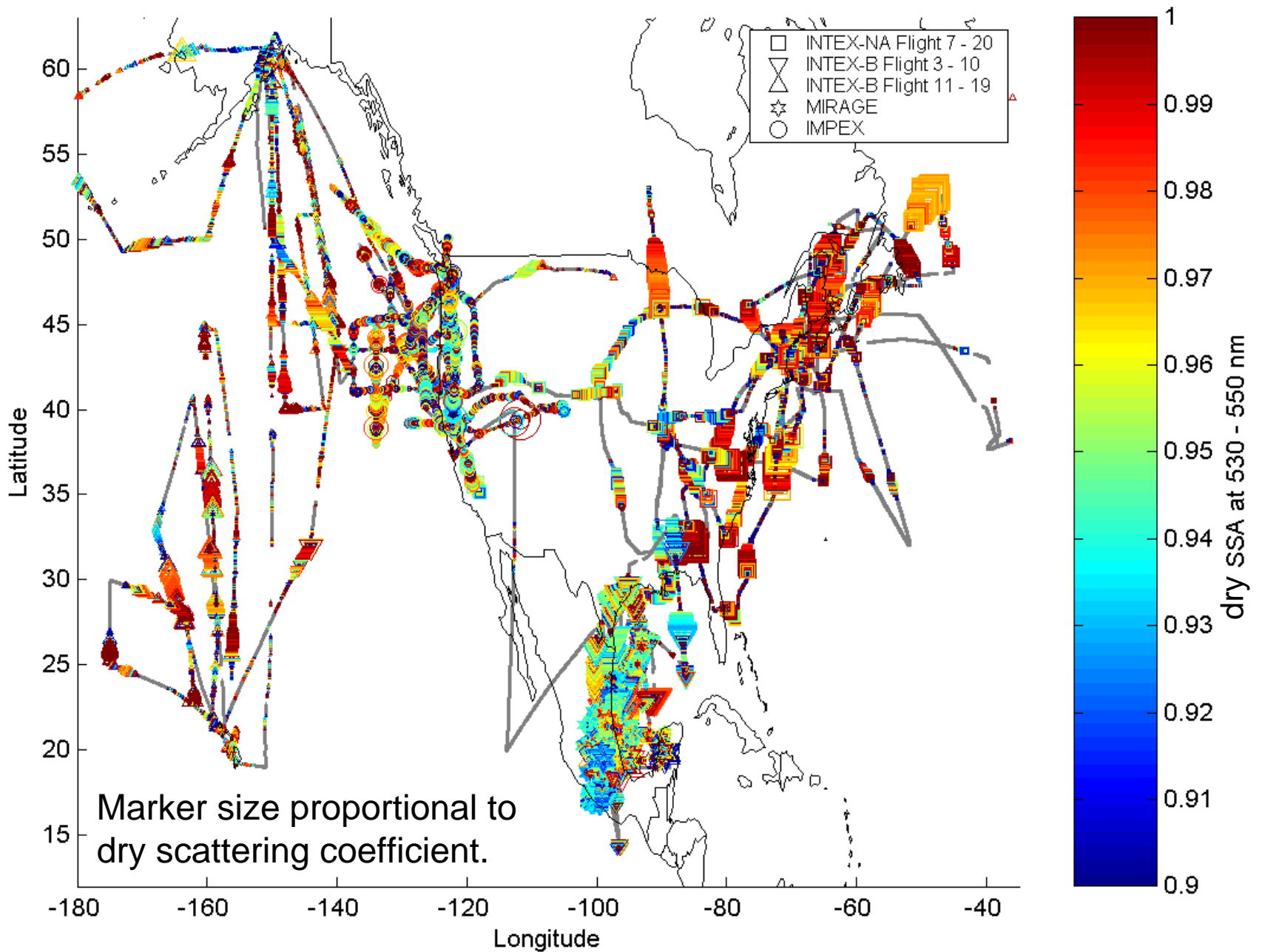
CCN Concentration

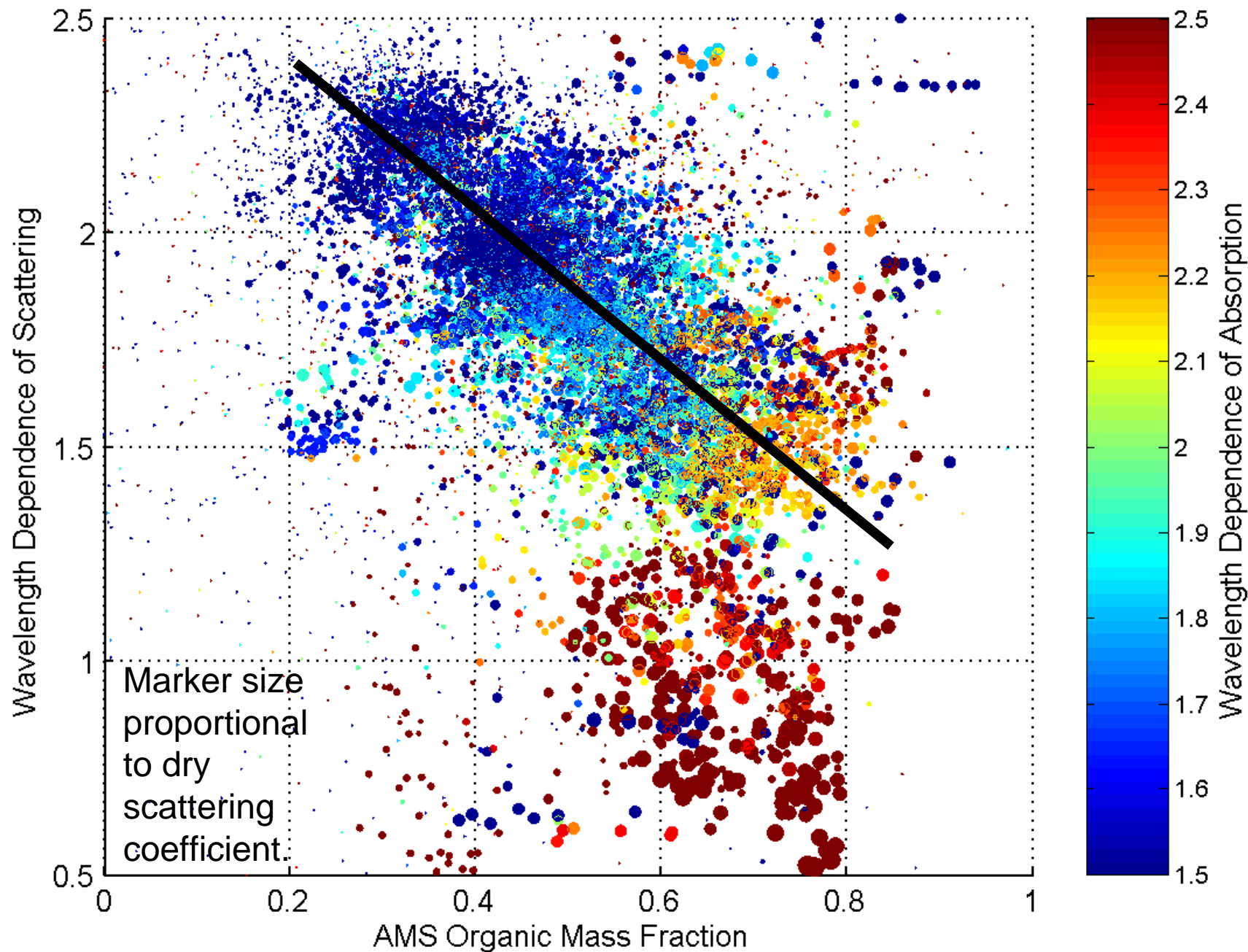
INTEX-B, Texas



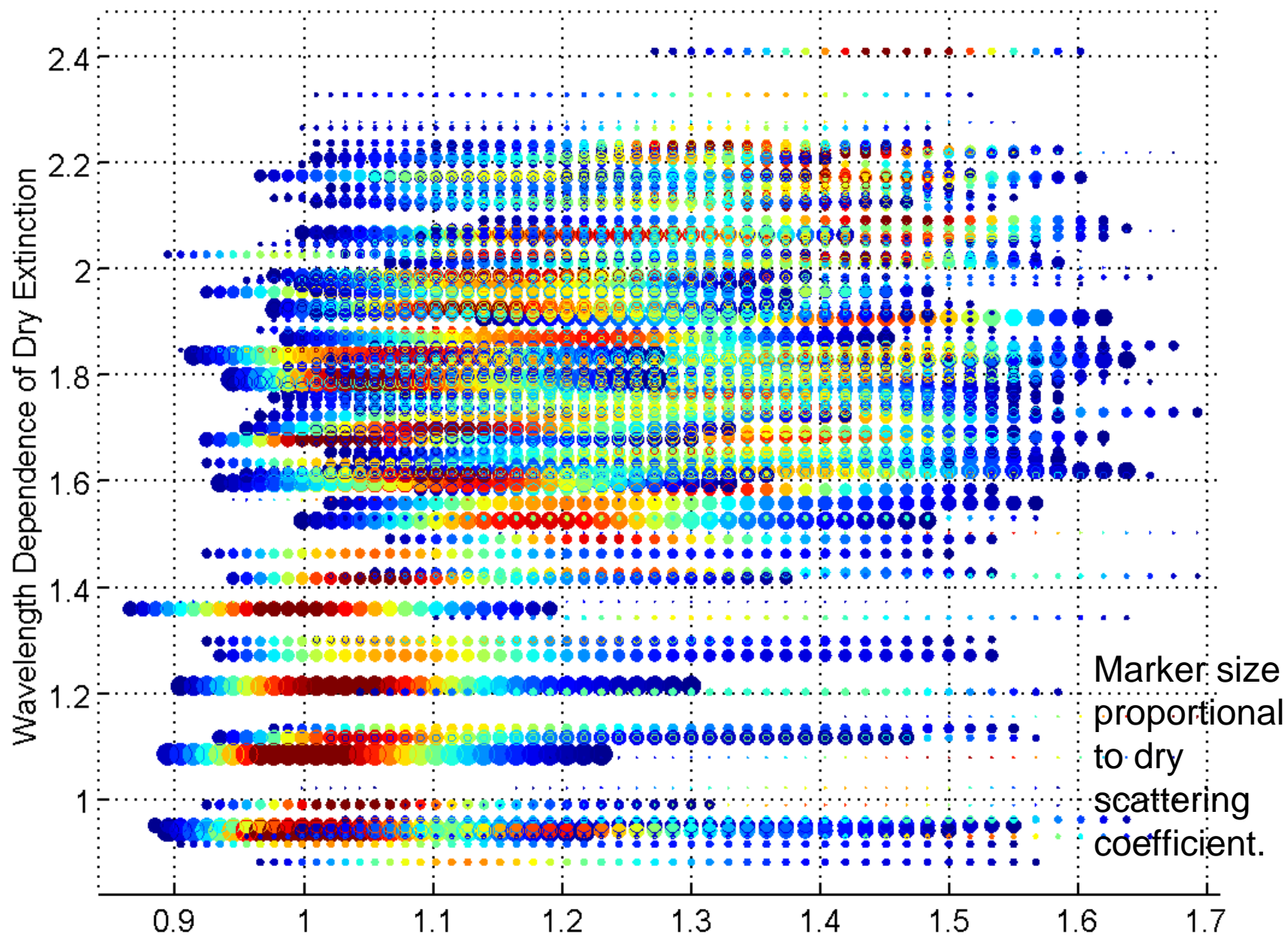








MIRAGE



Growth Factor for htDMA 100-nm dry particles

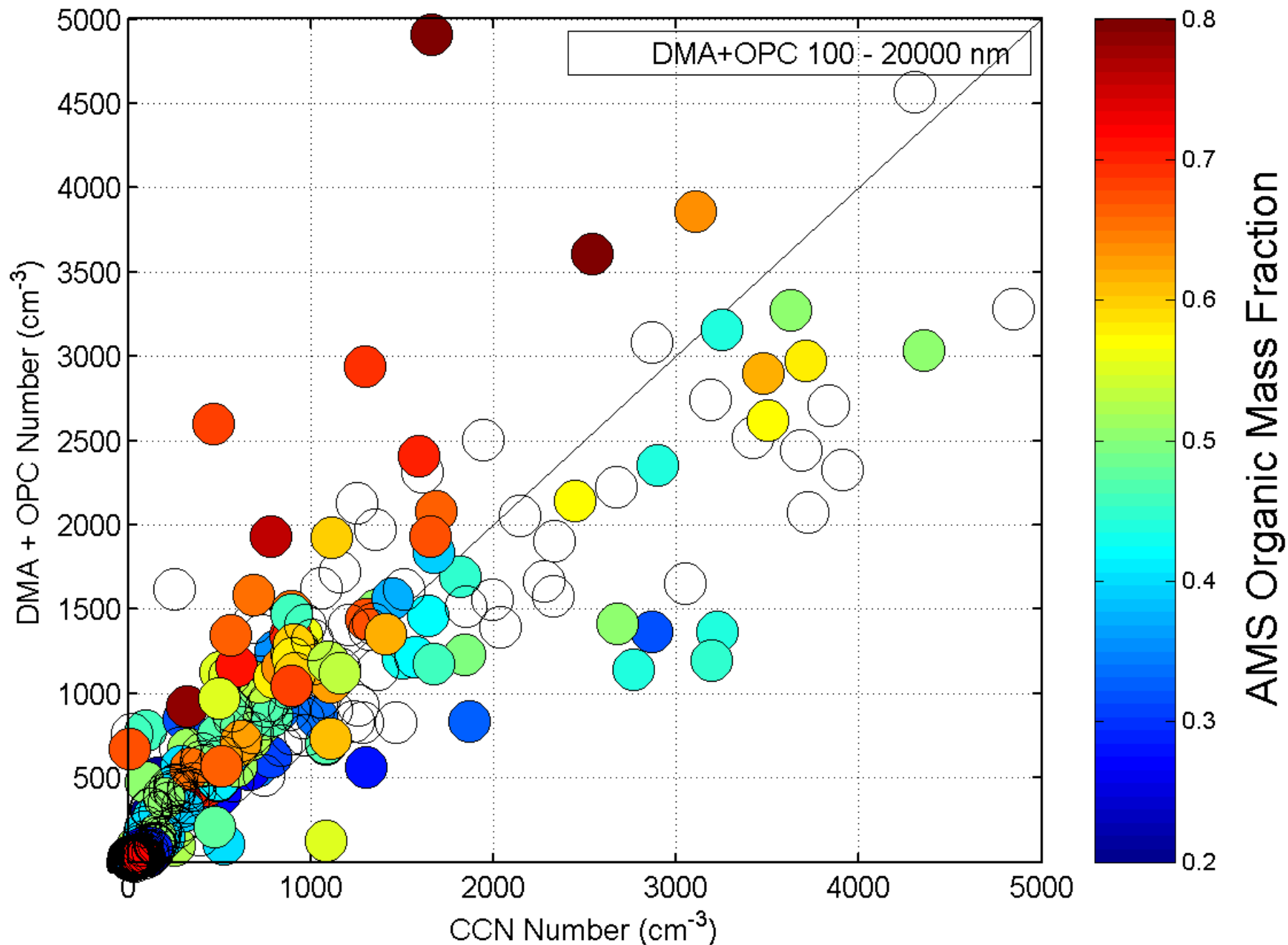
# Summary

- Wavelength dependence of extinction helps constrain the aerosol number and the chemical composition over Mexico.
- Single scattering albedo helps constrain the number.

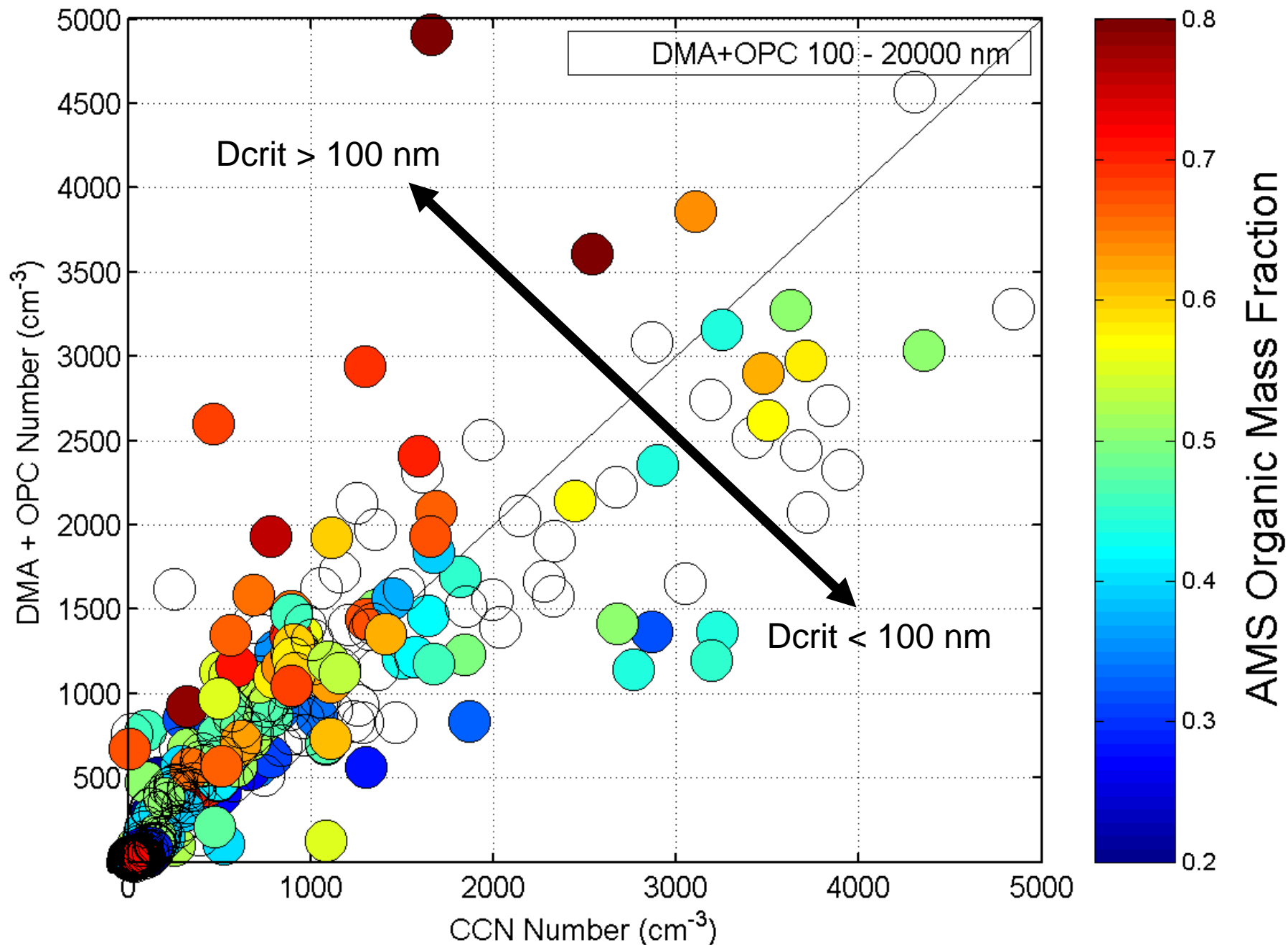


End of Presentation  
Additional Figures

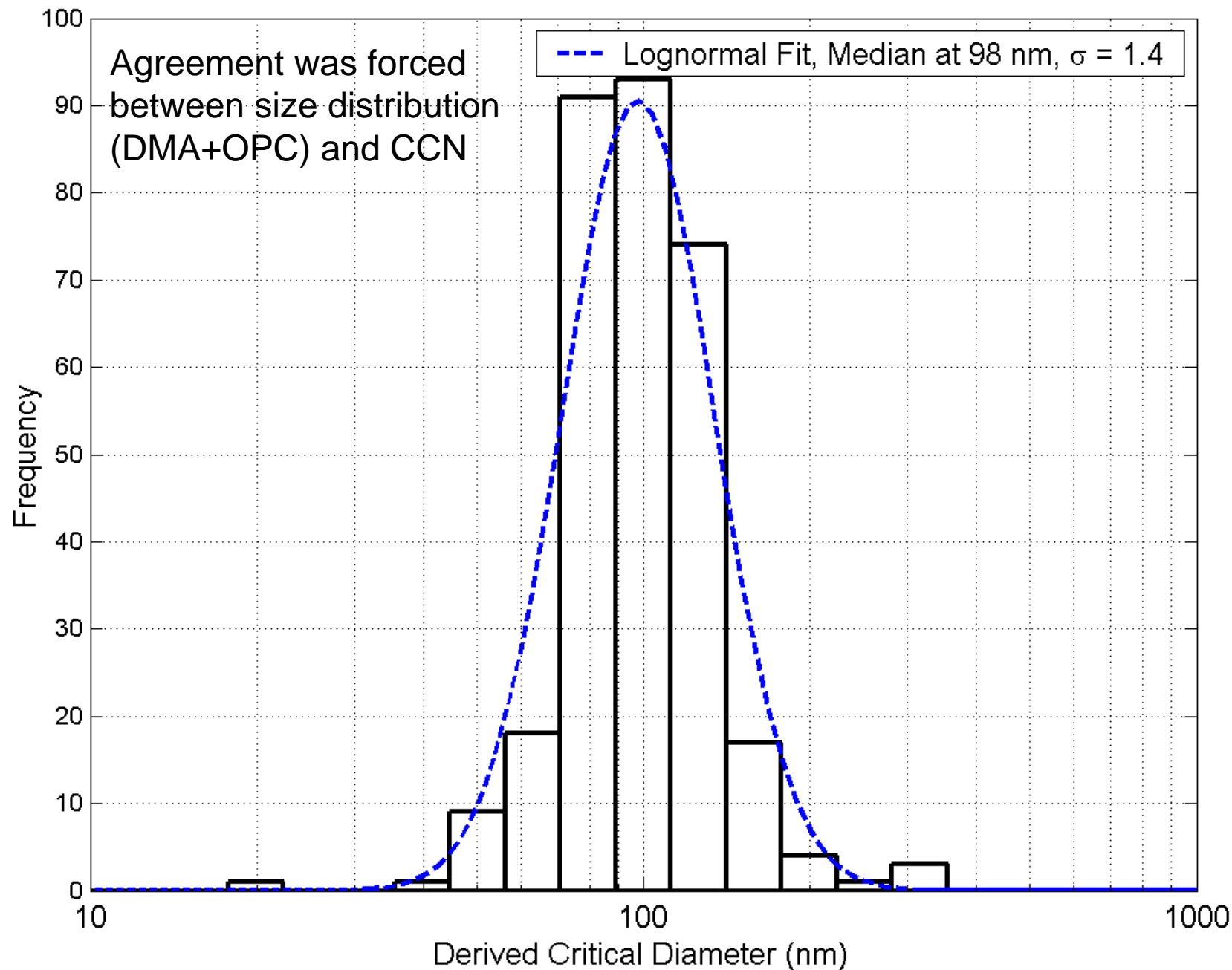
MIRAGE



MIRAGE

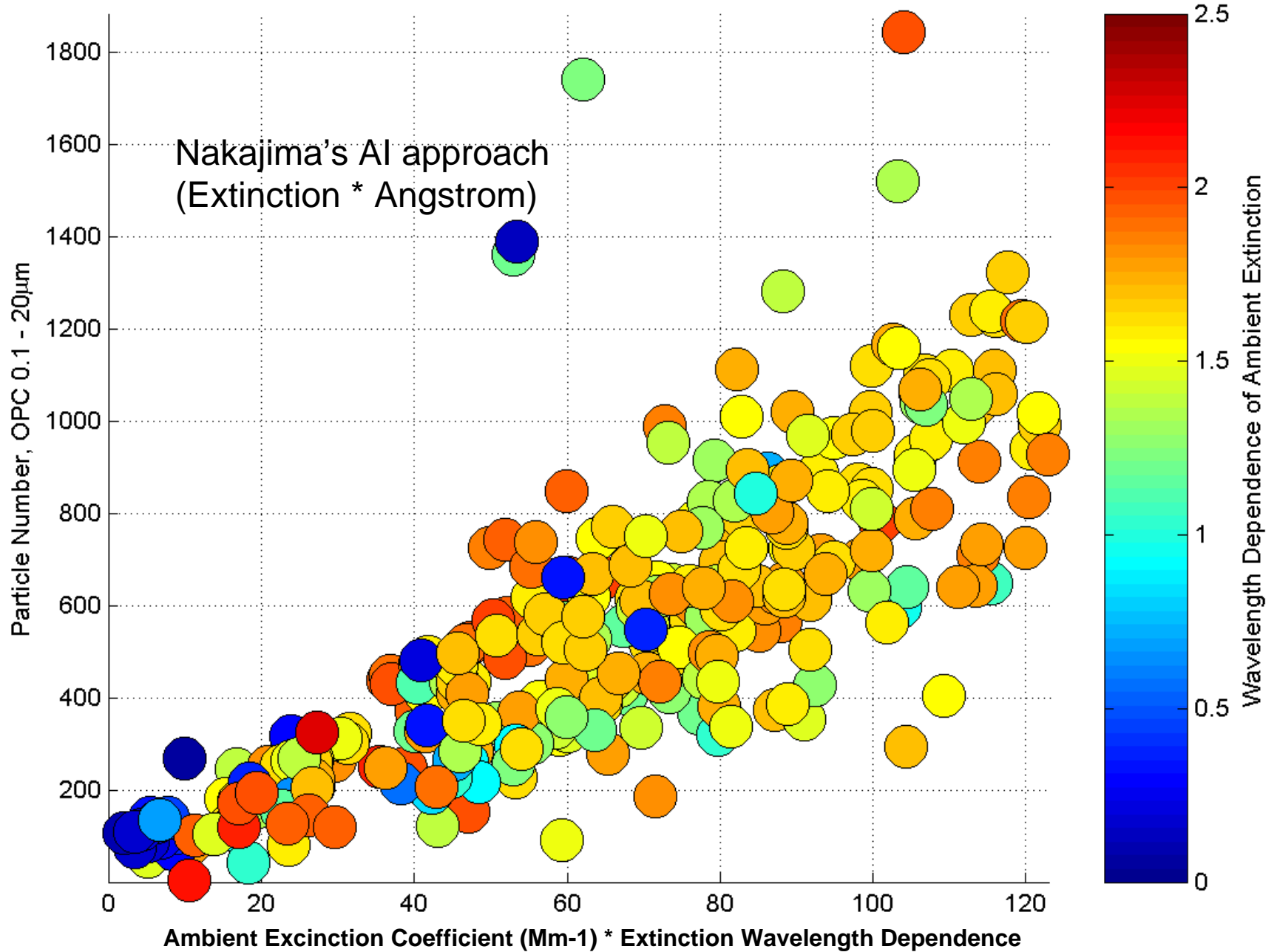


# MIRAGE

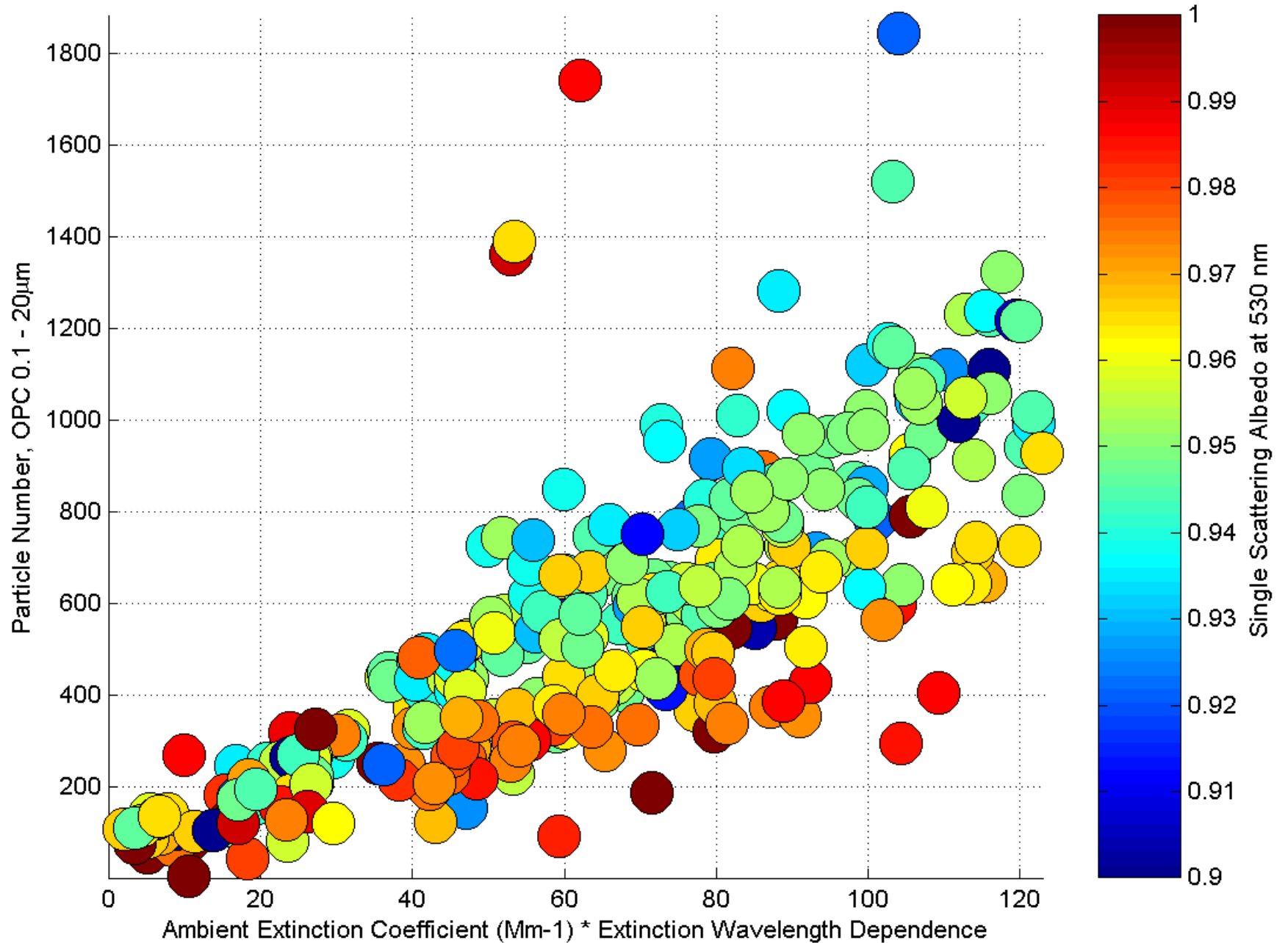


# Optics-Size Distribution

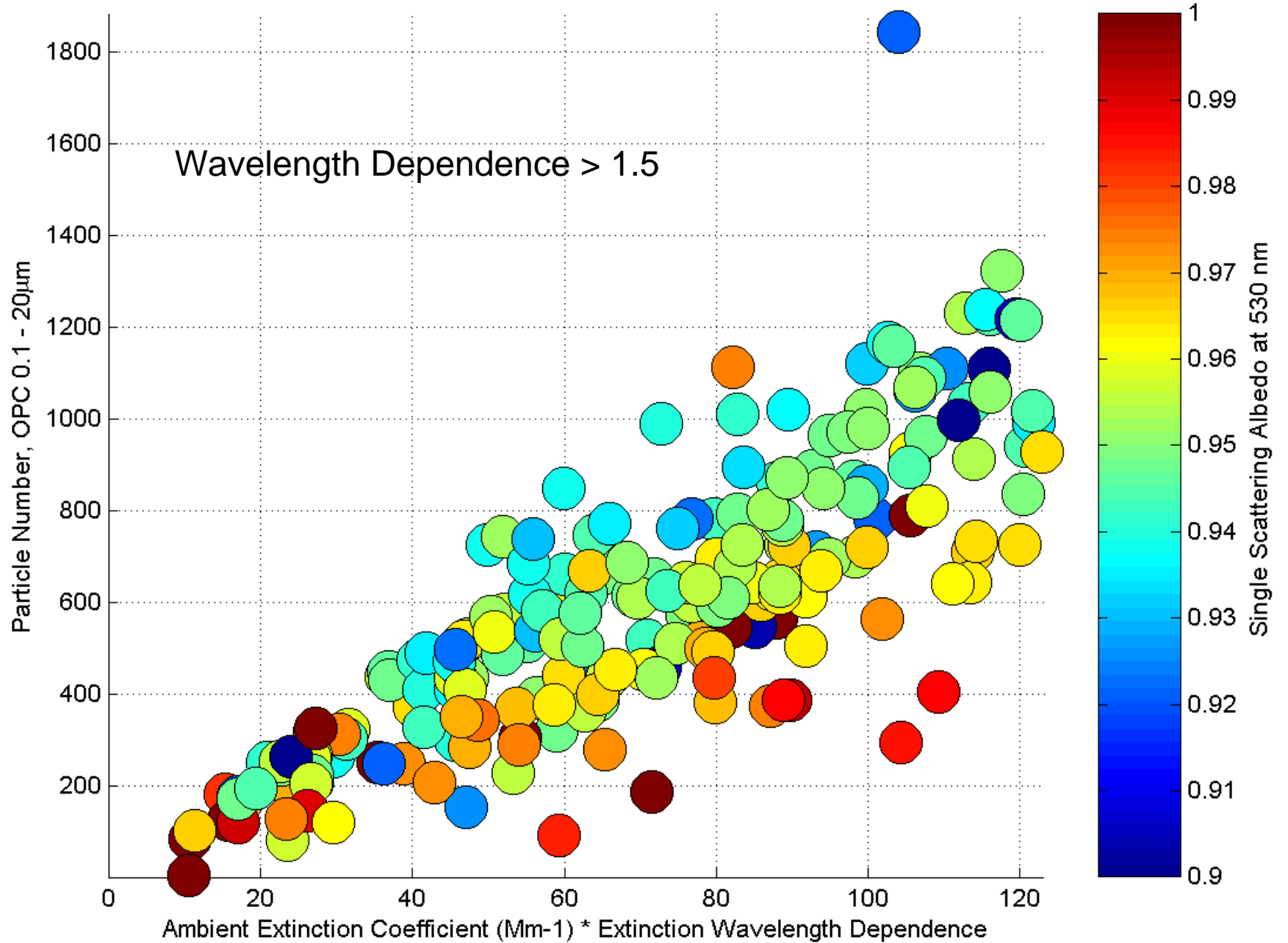
INTEX-B



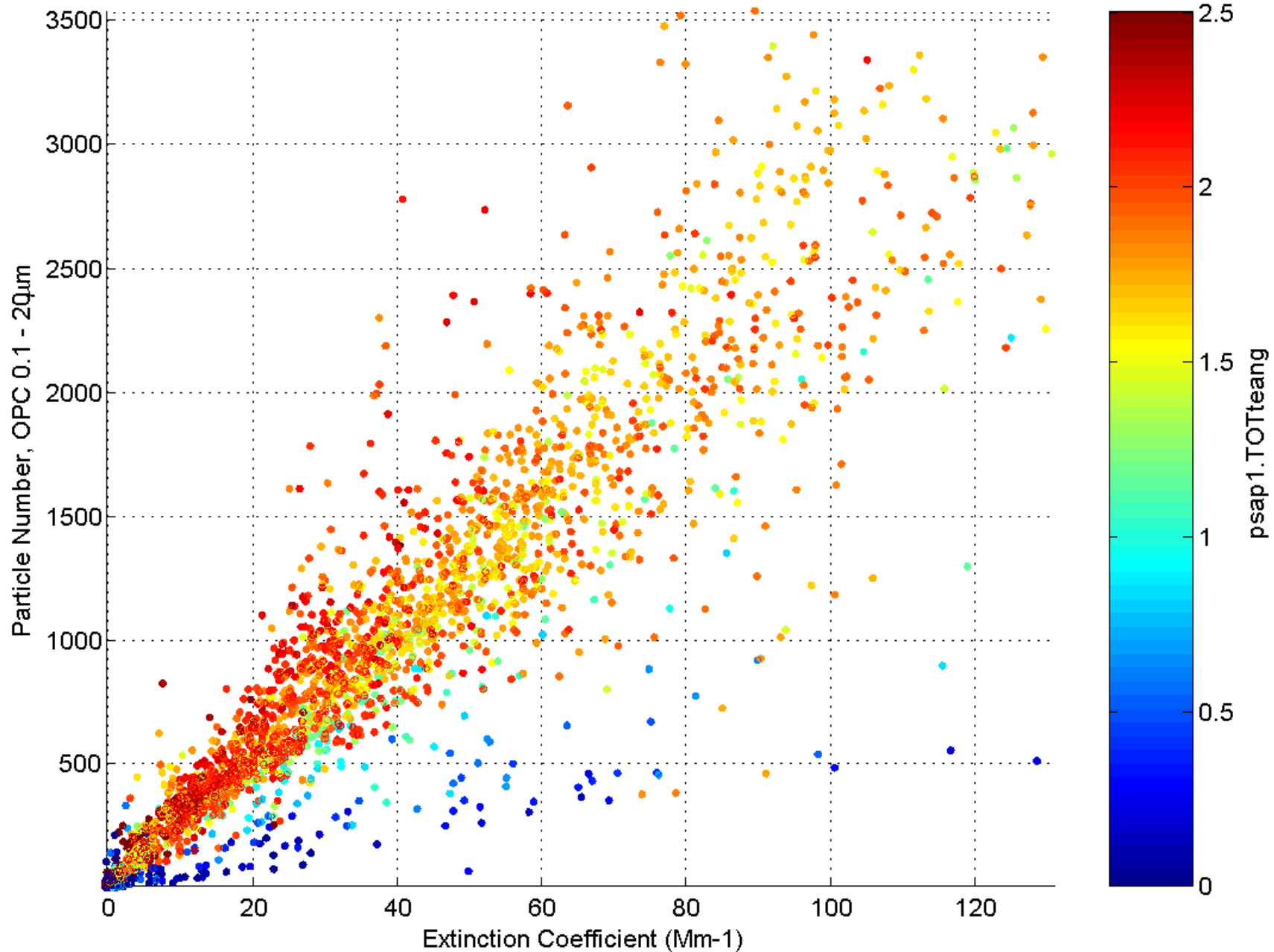
# INTEX-B



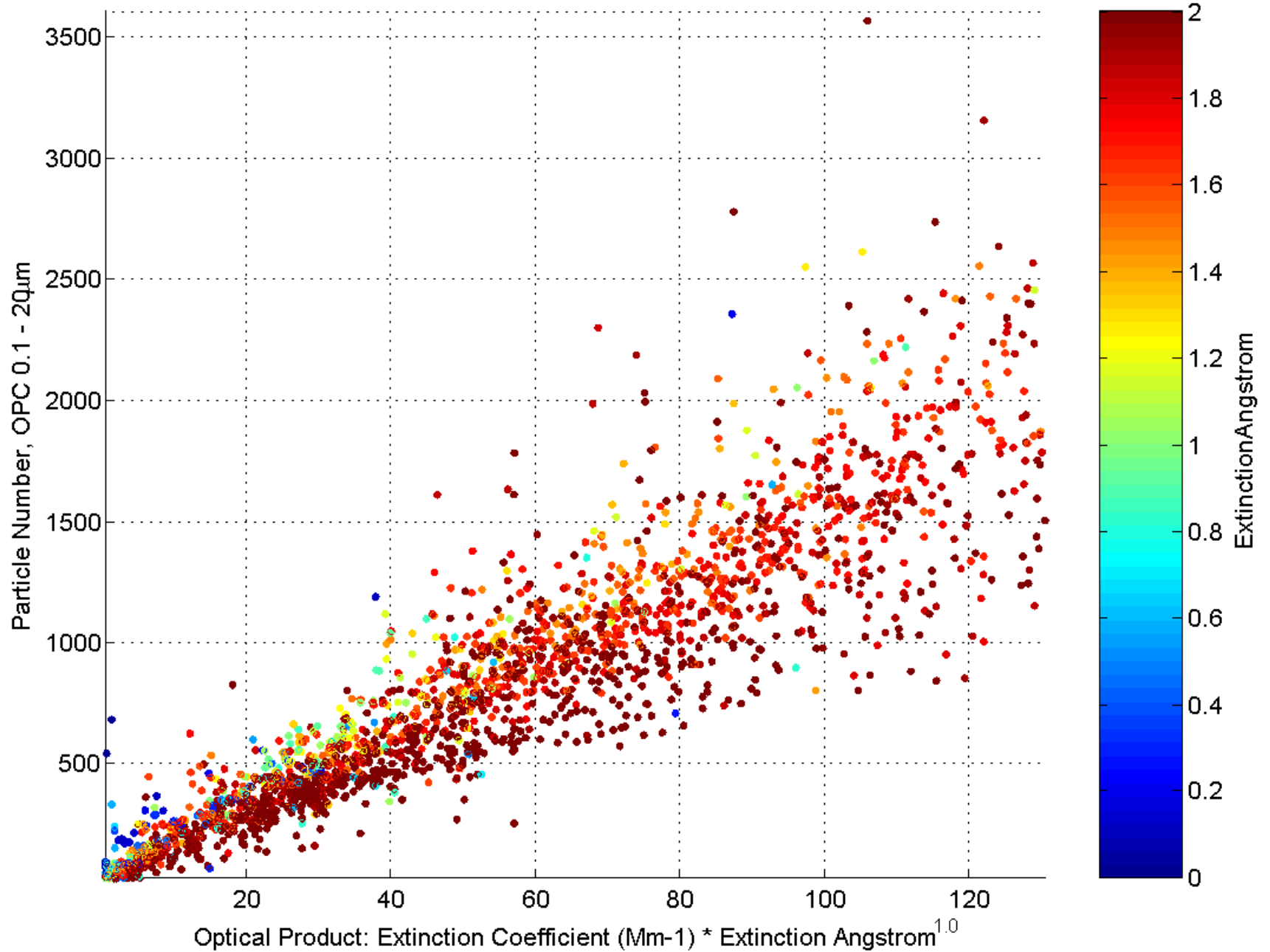
# INTEX-B

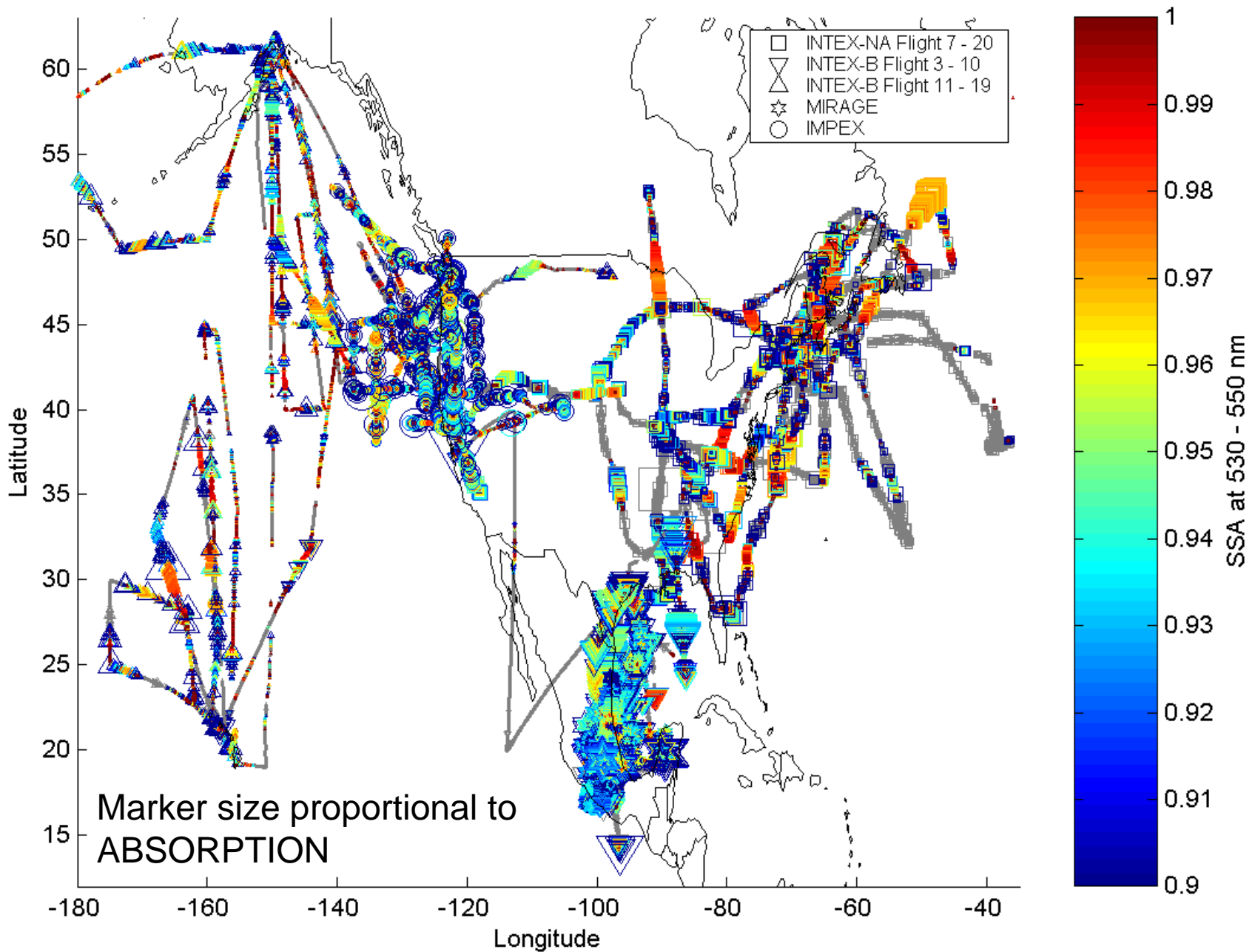


# MIRAGE

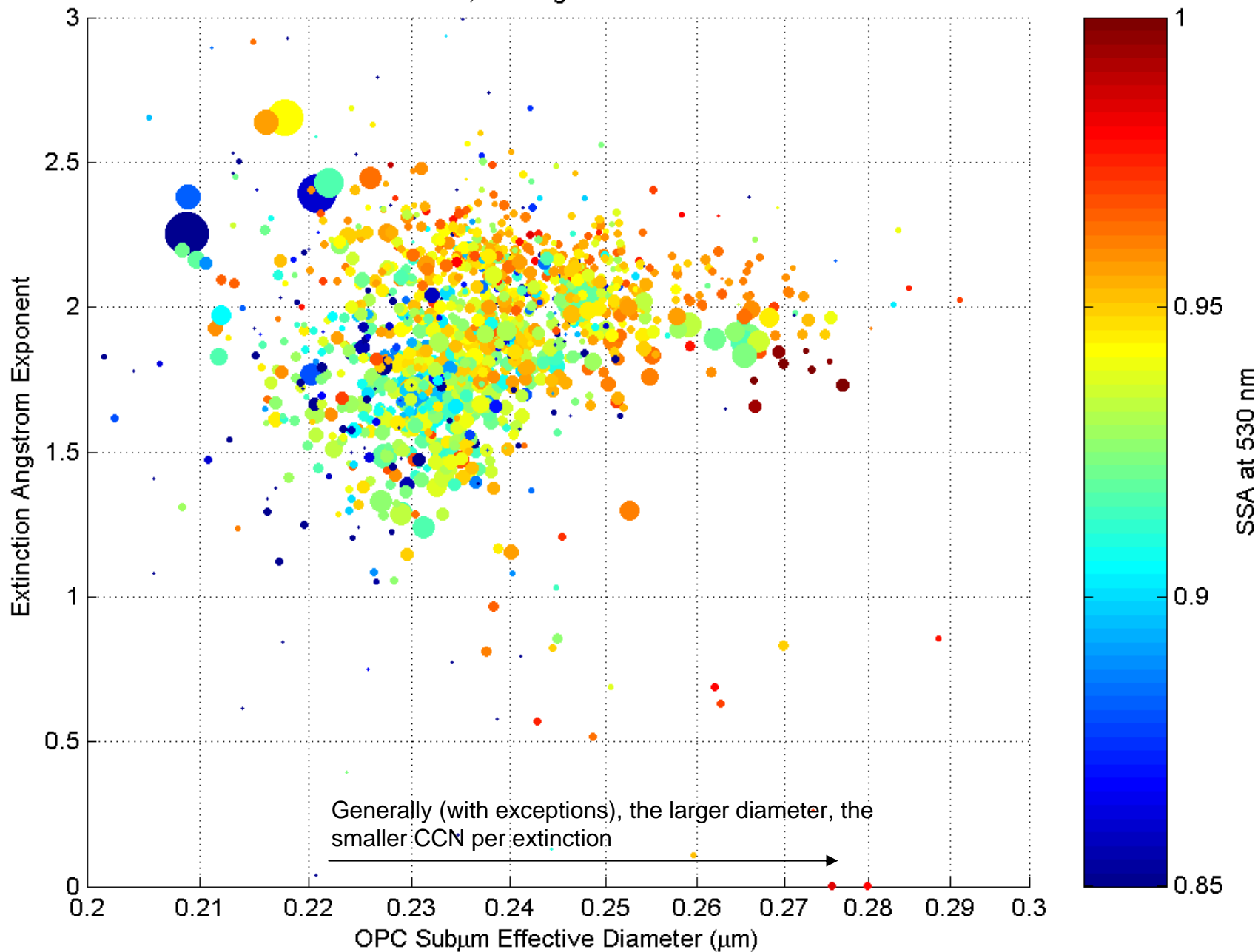


# MIRAGE

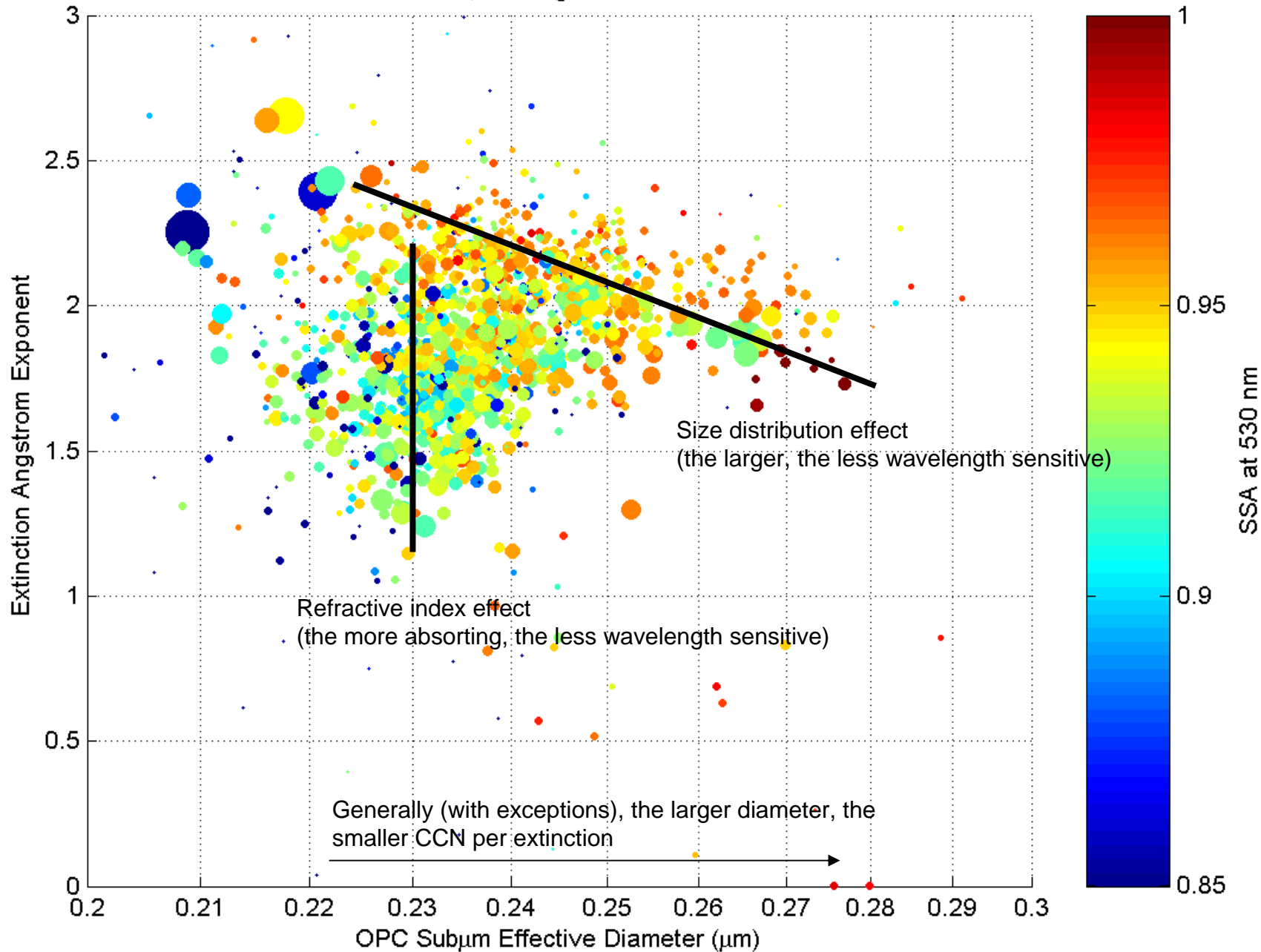




MIRAGE, Ext Angstrom = -Inf - Inf

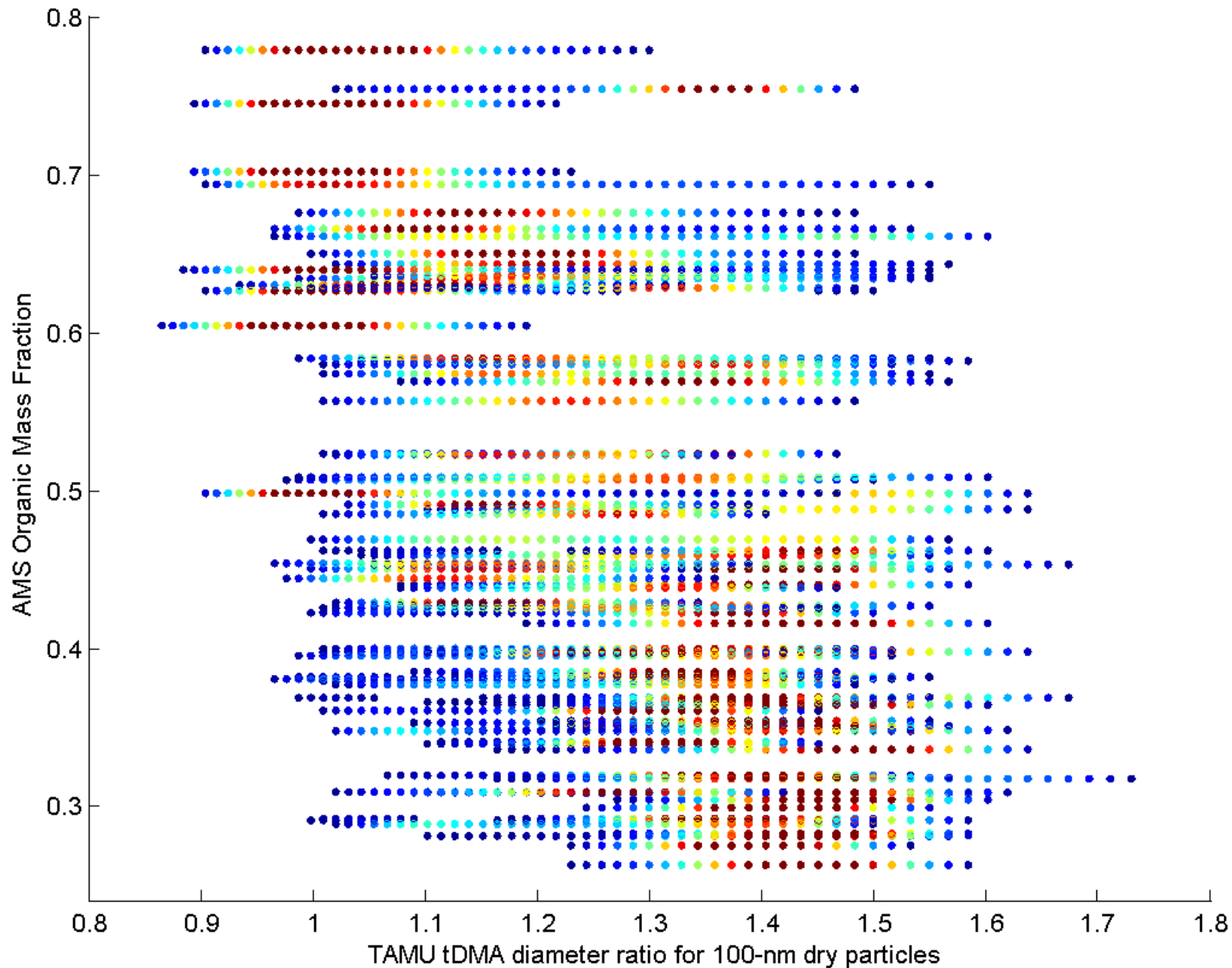


MIRAGE, Ext Angstrom = -Inf - Inf



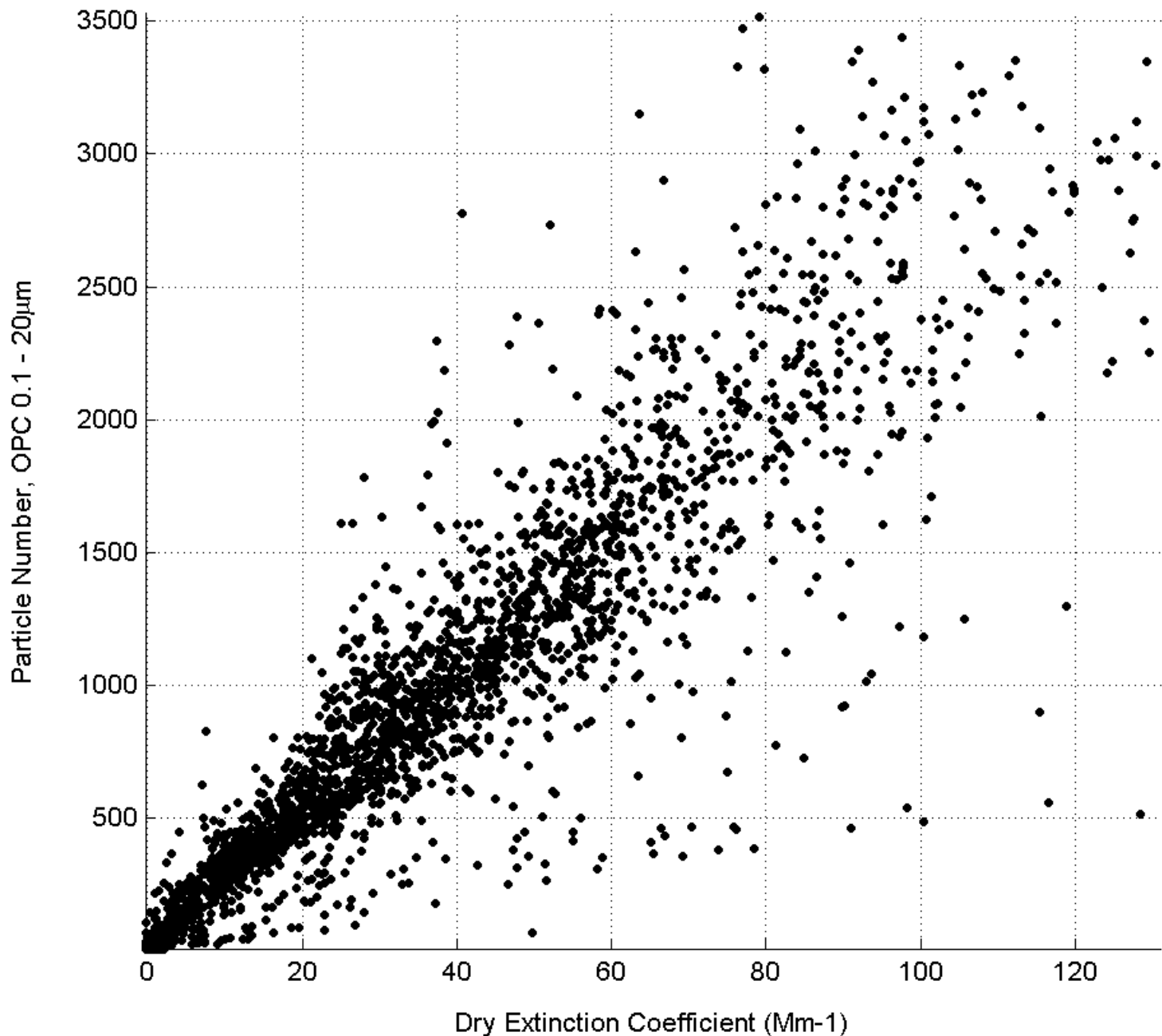
Optics-Chemistry-Hygrosopicity

# MIRAGE

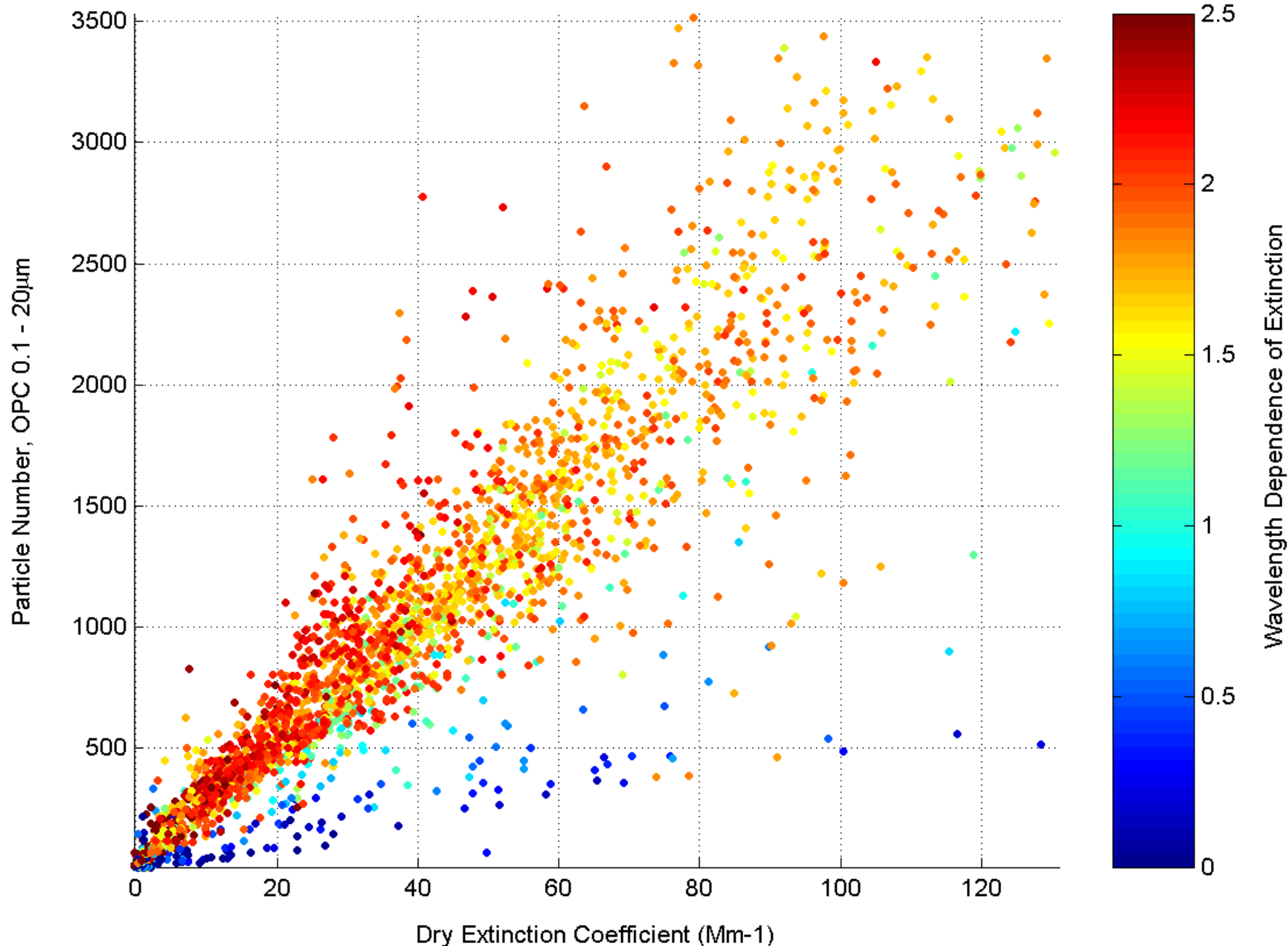


- F(RH) vs. Chemistry
- Optics vs. Chemistry

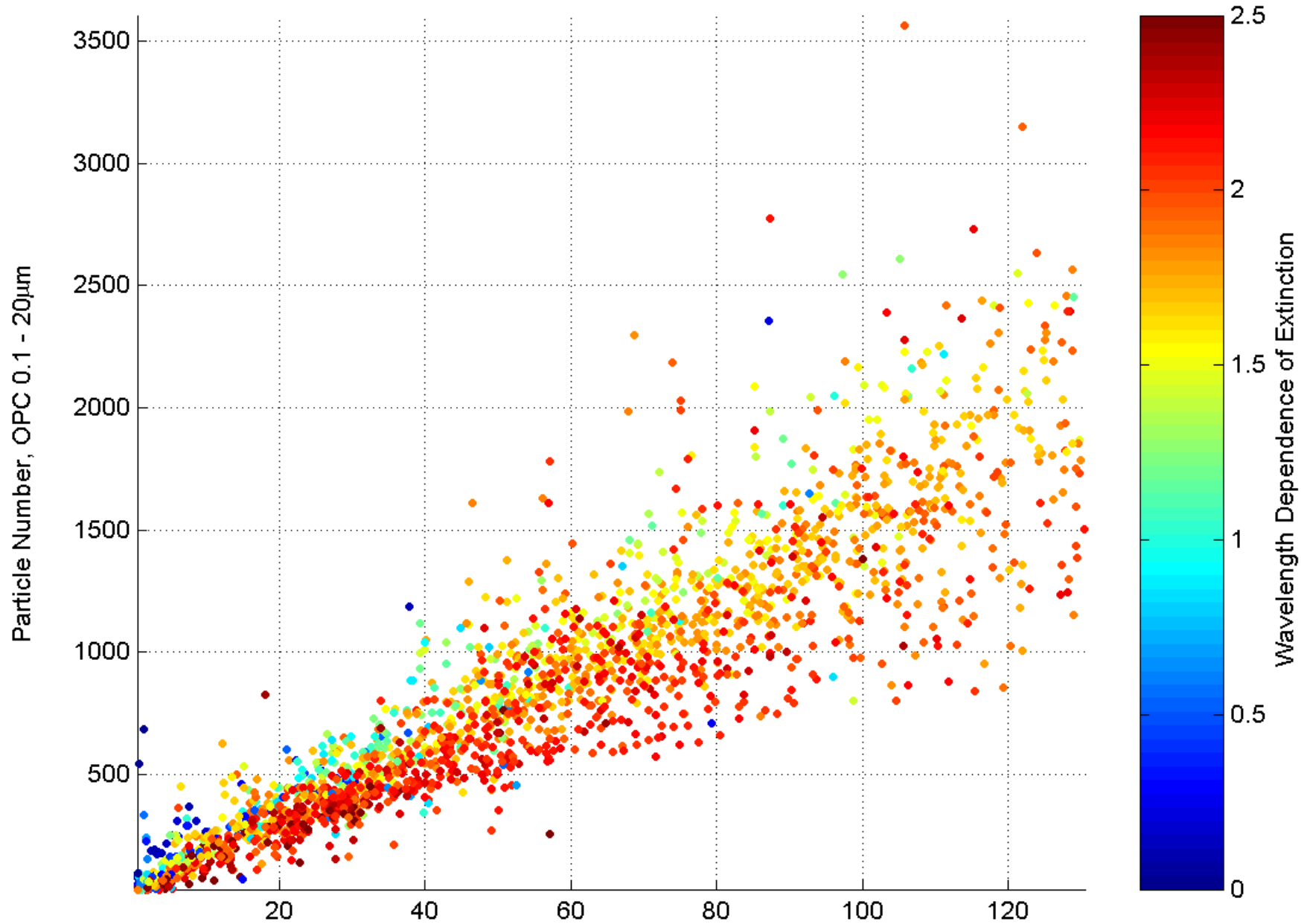
MIRAGE



# MIRAGE

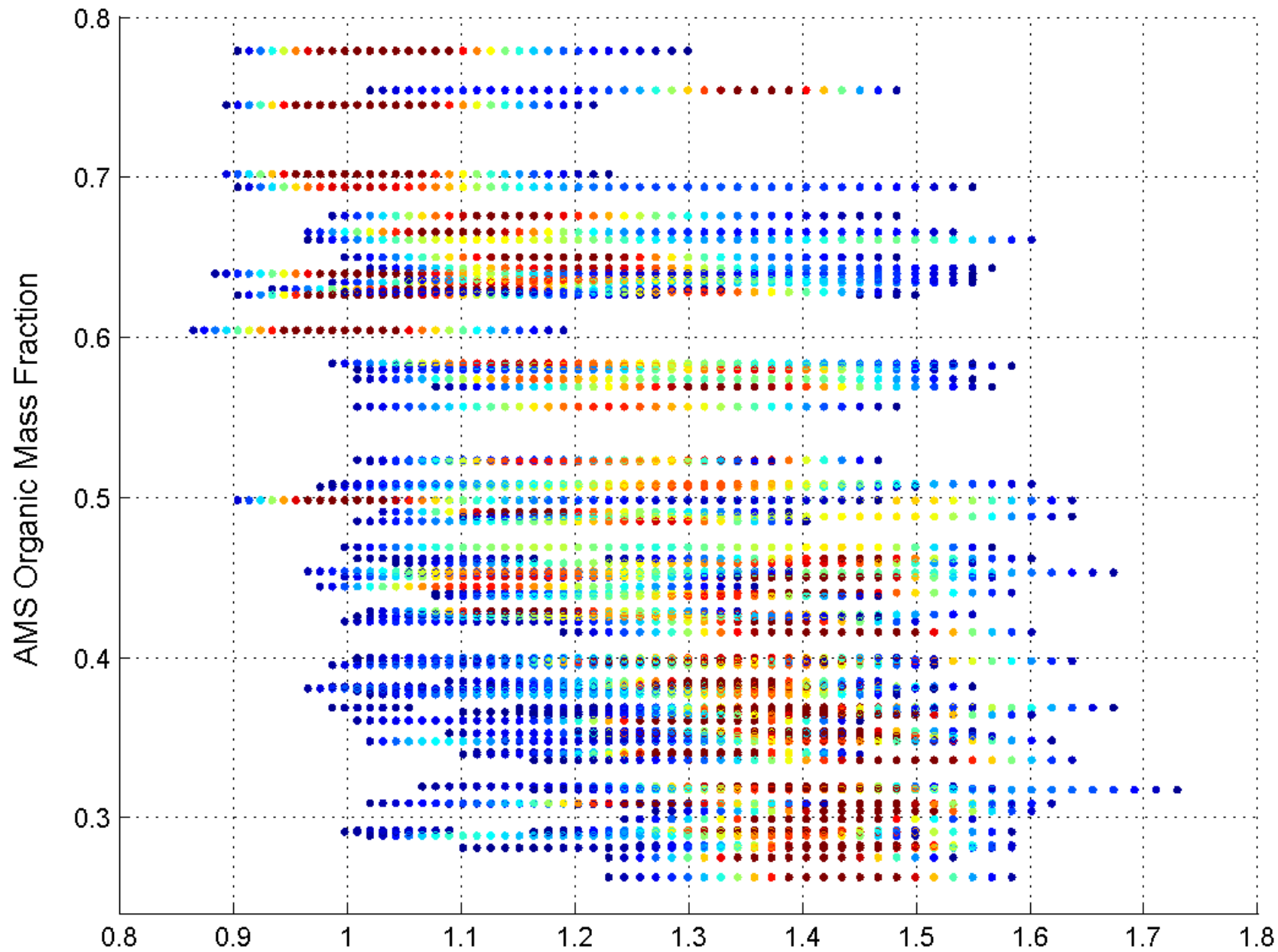


# MIRAGE



MIOpCCNOpticalproductbestgammaExtinctionAngstromVirk2.fig, INMIIPIBOPCCcnproxiopt.m, Yohei, 2007-05-08

## MIRAGE



Growth Factor for htDMA 100-nm Dry Particles

MITAMU100nmratioAMS.fig, MITAMUratioAMS.m, Yohei, 2006-12-18