

## **New Particle Formation/Growth Studies**

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These studies, which will take place at the T1 site, will focus on new particle formation in an airshed dominated by anthropogenic emissions. Our earlier measurements in Mexico City in 2002 showed that new particle formation does occur there. We anticipate that anthropogenic organic gas phase precursors should be more abundant at the T1 site than in other areas where we have measured such as in Atlanta. In the case of Atlanta, we did not detect organics on freshly nucleated nanoparticles smaller than 20 nm. Thus characterizing organics in particles will be a major research emphasis for our measurements at T1. Instruments that will be employed in this study include the Thermal Desorption Chemical Ionization Mass Spectrometer (TDCIMS), a Nanoparticle Tandem Differential Mobility Analyzer (Nano TDMA), a Particle Size Distribution system that will measure number distributions from 3 nm to 5  $\mu\text{m}$  in diameter, an Inclined Grid Mobility Spectrometer for measuring ambient charged molecular clusters, and a Nanoparticle Charge Fraction Analyzer for measuring the fraction of ambient charged particles smaller than 50 nm in diameter.