

## **Aerosol size distribution and CCN spectrum observed at T0 site during MILAGRO**

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Aerosol size distribution and cloud concentration nucleus (CCN) spectrum were characterized continuously from March 9 to 30th at T0 site in Mexico City during the MILAGRO field campaign. A Scanning Mobility Particle Sizer measured dry aerosol size distribution from 15 to 500 nm. CCN concentrations at supersaturations ranging from 0.1% to 0.32% were characterized using a CCN counter. Both aerosol size distribution and CCN spectrum showed strong diurnal variations, which are similar to results from previous studies in Mexico City. Peaks in both particle number and volume concentrations were often observed from 6:00 to 9:00 am. The high aerosol number and volume concentrations were probably due to the combination of primary traffic emission during morning rush hour and formation of secondary organic aerosol through photochemical reactions. Compared to aerosol number concentration, CCN concentrations often showed slow increases during the morning hours, and the maximum CCN concentrations were often observed around noon. The increases of CCN concentrations were possibly due to formation of soluble species, such as ammonium nitrate, in aerosol particles. Growths of nucleation mode particles were mostly observed in early afternoon. The nucleation mode particles were likely formed through homogenous nucleation then grown into the SMPS measurement range through condensation.