

Particle Morphology related to Size Distribution during the MILAGRO campaign at T1 site

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Measurements of fine particles (five sizes less than 2.5 microns) were made at the Technological University of Tecamac (UTTEC), State of Mexico (T1 site of MILAGRO campaign). The university location is 19° 43 N Latitude, and 98° 58 W Longitude. The altitude of this site is 2,340 m.a.s.l.

Four three-hour periods throughout the day were sampled. The objective was to find out any differences due to time of the day and sources. Sampling was done by placing transmission electron microscope (TEM) grids on the last 5 stages of an 8-stage MOUDI cascade impactor.

TEM images of particles were obtained at different magnifications by using a CM 200 Phillips TEM at the Advanced Materials Research Center (CIMAV, Chihuahua).

Preliminary results showed that T0 site and T1 site samples of particles with aerodynamic diameter 0.18 μm have differences in border-based fractal dimension that can be attributed to the process of particle aging and secondary particle formation. This situation is observed in a day with winds coming mainly from the city of Mexico.