Flux measurement of trace gases and aerosols in Mexico City during the MILAGRO 2006 field campaign

R. Grivicke, Washington State University; E. Velasco, S. N. Pressley, Washington State University; H. H. Westberg, Washington State University; B. K. Lamb, Washington State University; E. J. Allwine, Washington State University; T. B. Jobson, Washington State University; J. L. Jimenez, University of Colorado; M. L. Alexander, NOAA; E. Nemitz, Centre for Ecology & Hydrology, Edinburgh, UK; L.Molina, Molina Center for Energy and the Environment.

Current global trends of economical development lead to the expansive urban growth and raise concerns regarding the pollution levels produced in mega cities. The MILAGRO (Megacity Initiative: Local and Global Research Observations) project is a worldwide initiative aiming to understand the sources of urban pollution, its chemical nature and evolution in time. In 2006, the MILAGRO campaign was conducted in Mexico City. During the campaign, ambient concentrations and fluxes of various trace gases and aerosols were measured using eddy covariance methods from 40 meters above the urban landscape in west-central Mexico City. A variety of VOC's were detected using a combination of instruments, while major aerosol species were identified using an aerosol mass spectrometer (AMS). In this presentation, preliminary results acquired during the MILAGRO 2006 project will be presented in terms of VOC concentrations and fluxes measured using a combination of the disjunct eddy accumulation (DEA) method with GC-FID analyses and the eddy covariance (EC) method with PTR-MS detection. Initial concentration results from the AMS operation will also be presented.