



Mobile Optical Remote Sensing Measurements of NO₂ and HCHO Vertical Columns in Mexico City during MILAGRO.

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Mexico City is located at 19.4 latitude and elevation of 2200 m approximately, within a basin on the central Mexican plateau. Mexico City presents severe air pollution problems and is one of the most polluted cities in the world. The MILAGRO (Megacity Initiative – Local And Global Research Observations) field campaign held in the Mexico City Metropolitan Area (MCMA) during March 2006 was aimed at characterizing the chemical processes leading to the formation of photochemical smog in the MCMA.

During the MILAGRO campaign, the Optical Remote Sensing Group from Chalmers University of Technology performed measurements with two mobile mini-DOAS instruments collecting scattered UV and visible light in the zenith position. From these instruments the variation in vertical column (vertically integrated concentrations) of NO₂ and formaldehyde (HCHO) throughout the city has been derived for a number of days during the campaign. On the 10th of March 2006 the winds allowed the dispersion of pollutants towards a small opening located in the north of the MCMA. On this day, a measurement was made on the entire width of the plume flowing out of the Mexico City basin enabling the calculation of the flux of HCHO and NO₂ in the plume at this time.