

Integrated Air Quality Assessment in the Mexico City Basin

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The project is a contribution to the MEGA-MEX experiment in the south-eastern part of the Mexico City Basin. IMK-IFU will provide an ultralight aircraft equipped with instrumentation for the characterization of size distributions and optical properties of aerosols, the measurement of actinic radiation, respectively photolysis rates and micrometeorological parameters. VOC's will be sampled on board and on ground based field stations and analyzed in the lab. Ground based measurements of meteorology, mixing height (Ceilometer) and VOC's will be performed on at two field sites close to Amecameca in the Chalco Valley and at the Paso di Cortez.

The specific objectives of the project are:

- Quantifying 3D-distributions of gaseous and particulate air pollutants as well radiation transfer properties of the atmosphere.

- Quantify the impact of biogenic sources on trace compound composition in the valley and in the upper boundary layer.

- Validate radiation transfer/dispersion models

- Validate transport properties of 3D circulation/transport models.

- Validate chemical mechanisms in 3D circulation/transport models in particular the MCCM.

In addition, a joint IMK-IFU-UNAM activity aims at improving the emission factors for the Mexico City International Airport located inside of the Mexico City area.