



New Master Thesis Topic

Title:

Measurements of volatile organic compounds in a semi-urban area

Short description:

Volatile organic compounds (VOC) are well known as precursors of peroxy radicals, short lived compounds involved in most of the reactions of atmospheric interest and in particular in the formation of smog episodes.

The present master thesis is a first step in the interpretation of VOCs and peroxy radicals daily variations in Bremen. A main focus of the work is the measurement of selected ambient VOC concentrations by using the Proton Transfer Reaction Mass Spectrometry technique (PTR-MS). The familiarisation with the PTR-MS technique and calibration procedures for a series of selected VOCs of interest are important part of the work. Within the work, an intensive campaign of ambient measurements to be carried out on the top of the NW1 building is planned.

Skills needed:

Interest and desire to work experimentally in a team (previous experimental experience appreciated)

Python basic skills appreciated

Basic knowledge of atmospheric chemistry

IUP research group and research area

The IUP group Tropospheric Radical Observations and Laser Absorption Spectroscopy: TROLAS (<http://www.iup.uni-bremen.de/troposphere/>) has long standing experience in the optimization and characterization of measurement techniques for the determination of peroxy radicals in different environments and platforms (ground based, ship- and airborne).

Topic for students of

- M.Sc. Environmental Physics
- M.Sc. Space Sciences and Technologies

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