

Call for ACTRIS Intercomparison campaign of chemical ionization mass spectrometry to measure condensable vapours

University of Helsinki (ACTRIS Centre for Reactive Trace Gases In Situ Measurements – CiGas) is partnering up with TROPOS, and it is our pleasure to invite you to the first intercomparison workshop of chemical ionization mass spectrometers. We aim for improved quality of aerosol precursor gas measurements and clusters by the means of targeted experiments of highly oxygenated compounds and sulfuric acid. The intercomparison workshop will be organized at the twin chamber facility ACD-C (Atmospheric Chemistry Department Chamber) in collaboration with the OrGanic Tracers and Aerosol Constituents - Calibration Centre (OGTAC-CC), both at TROPOS, Leipzig, Germany in spring 2023 (February 27th – March 10th, 2023).

Our initial 2-week long experimental plan is following. The plan is not fixed, we are open for suggestions regarding the experimental plan:

Day 1-2: Set up

Day 3: calibration with ISOPOOH, different concentrations.

Day 4: alpha-pinene + OH, variation of Δ H_C, 3 steps

Day 5: alpha-pinene + O₃, variation of Δ H_C, 3 steps

Day 6: alpha-pinene + OH, high RH, 3 steps

Day 7: alpha-pinene + O₃, high RH, 3 steps

Day 8: NO_x dependency run

Day 9: sulfuric acid runs with different concentration (end of campaign)

Day 10: back-up

Cost: The facility costs are covered by University of Helsinki and TROPOS. Participants have to cover their instrument's transport and travel + accommodation costs for their instrument operators.

This workshop is aimed for the ACTRIS community using chemical ionization mass spectrometry to measure condensable vapours / direct aerosol precursors. The workshop is an activity of ACTRIS Centre for Reactive Trace Gases In Situ Measurements. The intercomparison workshop can be considered as a part of the future QA/QC measures for ACTRIS National Facilities.

We are looking forward seeing you in Leipzig and please don't hesitate to contact us for questions!

Partner

Atmospheric Chemistry Department (ACD), Leibniz Institute for Tropospheric Research (TROPOS), Leipzig, Germany

Institute for Atmospheric and Earth System Research (INAR) / Physics Faculty of Science, University of Helsinki, Finland (ACTRIS CiGas-UHEL)

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The intercomparison workshop will be organized at the twin chamber facility ACD-C (Atmospheric Chemistry Department Chamber) in collaboration with the OrGanic Tracers and Aerosol Constituents - Calibration Centre (OGTAC-CC), both at TROPOS, Leipzig, Germany. (Photo: Tilo Arnhold, TROPOS)