ACMCC: Aerosol Chemical Monitor Calibration Centre: A new facility for the quality control of ACTRIS-2 Aerosol Chemical Speciation Monitor (ACSM) measurements

Laboratoire des Sciences du Climat et de l'Environnement
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The European research infrastructure for aerosol, clouds, and trace gases (ACTRIS 2, http://www.actris.eu), includes a large number of world class observing stations and participants.

The ACTRIS infrastructure will deliver critical long-term datasets for the climate and air quality research including evaluation of weather forecast and climate models.
The large spatial extent of this network requires that operating procedures are put in place to ensure that measurements are performed in the same way with the same level of quality assurance.

European centre for Aerosol Calibration (ECAC)

1. The World Calibration Centre for Aerosol Physics (WCCAP),
2. The European Laboratory for Air Pollution (ERLAP)
3. The Aerosol Chemical Speciation Monitor Calibration Centre (ACMCC)

Each ACSM should be calibrated at least once during ACTRIS 2
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- Located 25 km south-west from Paris

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Objectives:
1. Calibration
2. Research activities

Next intercomparison: March 7th →
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Instrument arrival
2nd March

Ambient measurements
4th to 7th of March

Calibration,
IE NO$_3$, IE SO$_4$ (?), Lens alignment (?), Org standards (?)
7th to 10th of March

Ambient measurements
11th to 14th of March

Phase 2: Research intercomparison

Instrument return
acmcc@lsce.ipsl.fr


Dates: 7th - 18th March 2016
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Instrument should arrive at the latest the 2nd of March
→ Each instrument should be updated with latest DAQ.

→ Once instrument is received the ACMCC will unpack, plug, and start acquisition.
Users/Aerodyne arrive on Monday 7th.

→ Presentation of ACMCC organization,
→ ACTRIS reporting (Instrument evaluation/User evaluation).

→ ½ workshop with « Aerodyne » to perform data analysis (first 3 days of sampling)

→ Calibrations: IENO₃, IESO₄, Organic standards, lens alignment

Ambient measurements
4th to 7th of March

Calibration,
IE NO₃, IE SO₄ (?), Lens alignment (?)
8th to 10th of March

Ambient measurements
11th to 14th of March

→ ACMCC will pack up and ship.
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Phase 2: Research intercomparison

Variation of m/z 44:

→ Capture vapourizer
→ Flow reactor
→ Organic standards (atomized), known signature

Intercomparison ToF-ACSM??

New developments:

→ PM$_{2.5}$ inlet

..........................Discussion..........................

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DACCIWA project: Postdoctoral position available
(Dynamics-aerosol-chemistry-cloud interactions in West Africa)

Where: Laboratoire de météorologie physiques. Clermont Ferrand France

Start date: Between Jan and May 2016, 24 months

DACCIWA project: European project let by KIT, more details at www.dacciwa.eu

Characterisation of aerosol physical/chemical properties in a range of atmospheric environments.

Campaign June/July 2016:
Flights ATR42 in West Africa (Togo).
Aircraft will be equipped with the following instrumentation
→ C-ToF-AMS → PTR-MS → SMPS/CPC etc.

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