Wind tunnel: Experimental site in natural conditions

Located at the summit of the puy de Dôme mountain (1465 m), the open wind tunnel is a unique site in France for observation in natural meteorological situations (cloudy conditions or not).

This open wind tunnel is designed for in-situ studies and characterization of aerosols and cloud particles.

Application fields

- Implementation of original methodologies of in-situ clouds and aerosol observations used for studies on cloud/chemistry/climate interactions.
- Applications with technological character: prototype tests and validation of airborne instruments.
- Industrial projects: aeronautics, buildings, textile tests,…

Cloudy conditions with supercooled clouds (icing) and ice crystals: from November to April.
Aerosol experiments: from May to October.

Services

- Visit of the facilities.
- Implementation of the necessary instrumentation for the experiment.
- Experiment and data acquisition.
- Data processing.
- Expertise report.

Facilities

- Wind tunnel with adjustable airflow up to 17 m$^3$/s.
- Two alternate sampling sections according to the application:
  - 250 mm x 320 mm (0.6 m length), airspeed up to 120 m/s;
  - 500 mm x 640 mm (2 m length), airspeed up to 52 m/s.
- Controlled parameters (airspeed, temperature, liquid water content, particles size diameter, ice crystals shape,…).

CONTACTS

Christophe GOURBEYRE
+33.4.73.40.78.24
C.Gourbeyre@opgc.univ-bpclermont.fr
Campus des Cézeaux - OPGC - LaMP
Aubière - FRANCE

Pascal PERSONNE
+33.4.70.02.20.73
Pascal.Personne@moniut.univ-bpclermont.fr
IUT GTE
Montluçon - FRANCE