Activities at Atmospheric Science, GU

- Field Measurements
  - Emission Factors
  - Göte-2005
- Modelling
  - Vapour pressure parameterisation
  - Cloud processes
- Technique development
  - Single particle detectors
  - Aerosol Mass Spectrometer
- Laboratory investigations
  - Secondary Organic Aerosol formation and properties
  - Ice nucleation
Emission ratio equation

\[ \text{E.R.} = \frac{UFP_{\text{emitted}}}{\text{NOx}_{\text{emitted}}} \]

\[ \text{Conc}_{\text{emitted}} = \text{Conc}_{\text{traffic}} - \text{Conc}_{\text{background}} \]

Emission factor at road side

1.0 \pm 0.3 \times 10^{14} /km
0.7 \pm 0.1 \times 10^{14} /km
GÖTE-2005 The sites

- Monitoring network (Haga, Järntorget, Mölndal)
- Femman (Urban 1)
- Campus (Urban 2)
- Läppstiftet (Urban 3)
- Olskroken (Urban 4)
- Stadshuset (Urban 5)
- Råö (Rural)
- Meteorological sites
- Aeroplane

GÖTE-2005

- Measurements between 2/2 and 2/3, in the Göteborg area.
- February, a typical winter month with expected high levels of air pollutants? - Probably not 2005...

www.che.gu.se/atmsci/Gote_2005.htm
GÖTE-2005

Deltagare:

GÖTEBORGS UNIVERSITET

Göteborgs Stad
Miljö

SP

IVL

SMHI

Vasakronan

GR

NILU

CHALMERS

CEH

Centre for Ecology & Hydrology
NATURAL ENVIRONMENT RESEARCH COUNCIL

ETH

Meteorologisk institutt
marked.met.no

ACCENT

Independent Administrative Institution
National Institute for Environmental Studies
Examples on measurements

- VOCs, Daily samples and PTR-MS
- NO$_x$, O$_3$, SO$_2$, CO
- UV-spectra
- Mercury
- Aerosols
  - SMPS
  - Organic speciation
  - Elemental composition
  - OC/EC
  - C14
  - MOUDI-impactor
  - PBMS
  - LIDAR
  - AMS-Flux

What will happen in the future?

- Data evaluation
- Database
- Model verification
- Conference, 2nd November
Contribution to NORPAC

- Establish emission factors for Nordic conditions
- Aerosol dynamics during GÖTE-2005
- Intercalibration of DMPS/SMPS
- Organic speciation of aerosol particles