



Monitoring of organic compounds in aerosols and the gas phase during the EUCAARI-IOP campaign at the Cabauw site

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During the EUCAARI-IOP campaign at the Cabauw site, Netherlands, a new instrument has been deployed to monitor the chemical composition of aerosols. The technique is based on impactation aerosol sampling and uses PTR-MS as detector. The chemical compounds are measured in situ in both the gas and the particle phase. A detection limit below 500 pg/m³ has been realized for many compounds. With some modifications the sensitivity can be easily improved by a factor of ~ 10 . The largest detected signal was attributed to nitrate (several micrograms/m³) and is in good agreement with other nitrate measurements simultaneously performed at the same site. Besides organic fragments with the chemical structure of formaldehyde, acetaldehyde, methanol and acetone ~ 75 other compounds have been detected among these are organic nitrogen and organic halogen compounds. Many compounds exhibit distinct daytime/nighttime patterns and their concentrations vary with respect to transport history.