EC/OC-PHOTO-MS

AMBIENT AEROSOL FILTER PAD ANALYZER

Thermal-optical multi-wavelength carbon analyser photo-ionisation tof-ms for chemical speciation of particles

www.photonion.de
EC/OC-PHOTO-MS

THERMAL-OPTICAL MULTI-WAVELENGTH CARBON ANALYSER PHOTO-IONISATION TOF-MS FOR CHEMICAL SPECIATION OF PARTICLES

Analysis of ambient particulate matter (PM) from quartz fibre filters

Photonion GmbH has developed together with AEROSOL d.o.o. a new powerful analysis of quartz fibre filter samples for bulk carbonaceous PM constituents and chemical speciation to the molecular level without sample preparation.1

METHOD

A hyphenation of AEROSOL'S DRI MODEL 2015 MULTI-WAVELENGTH CARBON ANALYSER to PHOTONION'S PHOTO-TOF-MS.

The carbon analyser provides the bulk properties of particle-bound carbon (TC=EC+OC). The PI-TOF-MS enables chemical speciation of particle-bound organic compounds.
**APPLICATIONS**

Analysis of ambient particulate matter (PM) from quartz fibre filters. The amount of carbon and volatilised PM constituents can be qualified and classified.

Analysis of PM constituents from:

- marine engine
- wood stove
- gasoline engine

EC/OC-PI-TOFMS m/z vs time contour plot (REMPI and SPI) of summer and winter ambient PM from Ispra, Italy.

REMPI mass spectra (average of OC1 and OC2) from a marine engine operated on diesel fuel (blue) and heavy fuel oil (red).

6. Mentzel 2019 Fuel
Applications

Analysis of ambient particulate matter (PM) from quartz fibre filters

- ship exhaust
- wood stove exhaust
- car exhaust