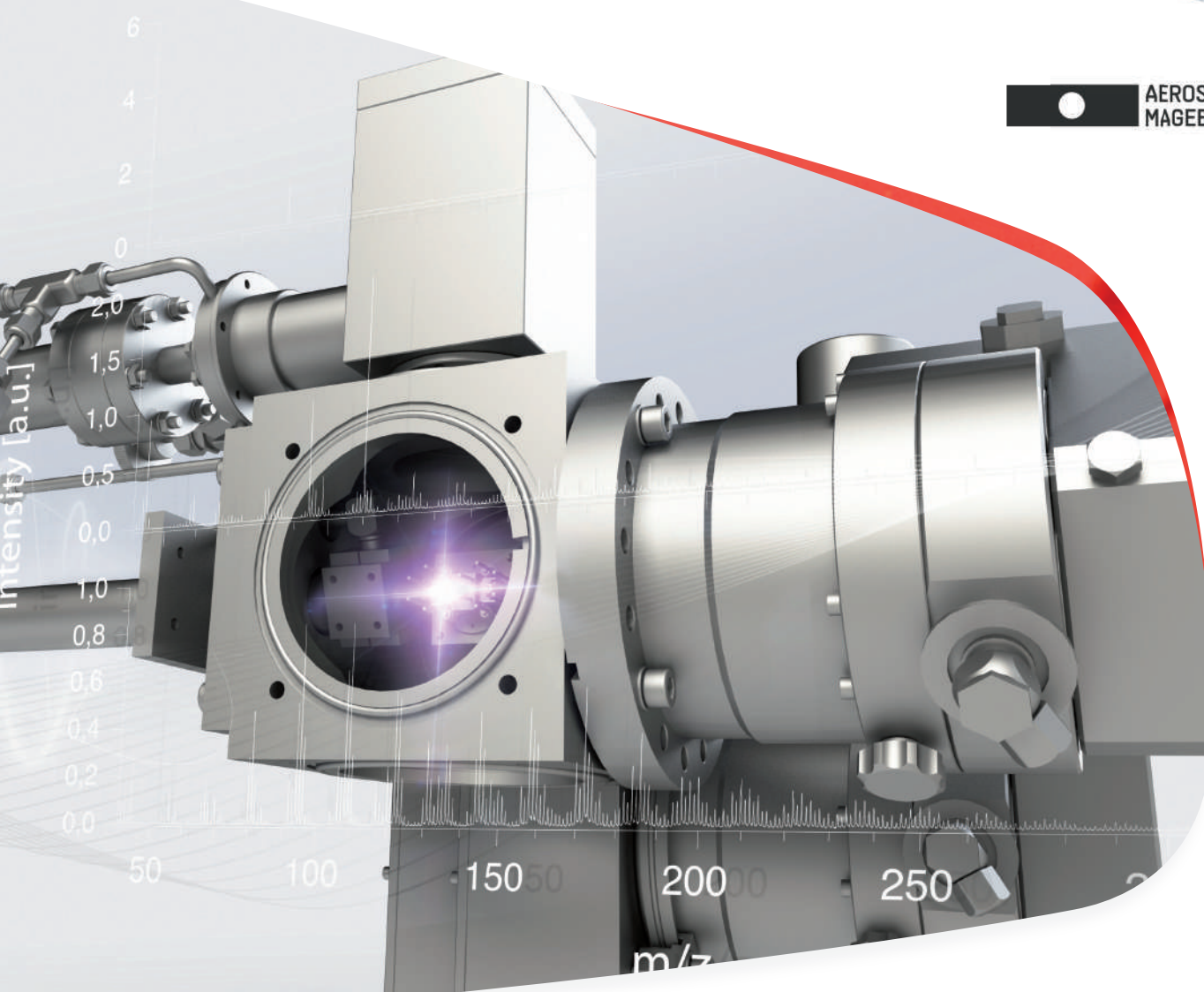




EC/OC-PHOTO-MS

Product
Description



AMBIENT AEROSOL FILTER PAD ANALYZER

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

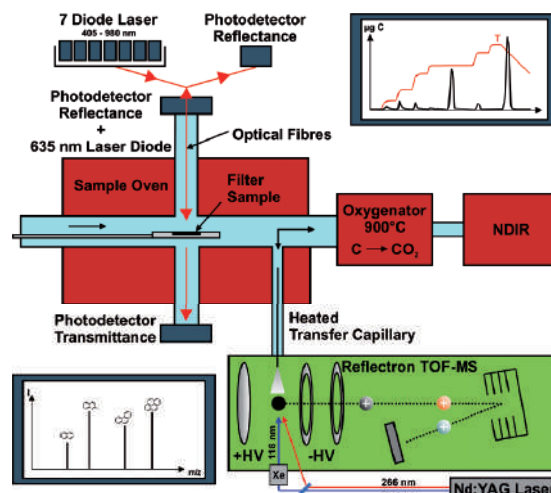


EC/OC-PHOTO-MS

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 (also Series 2) 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.



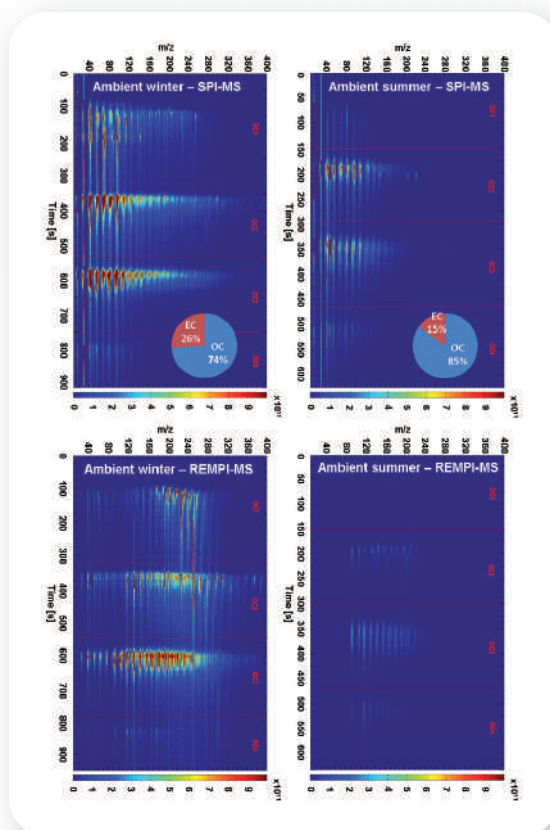
APPLICATIONS

Analysis of ambient particulate matter (PM) from quartz fibre filters. ²

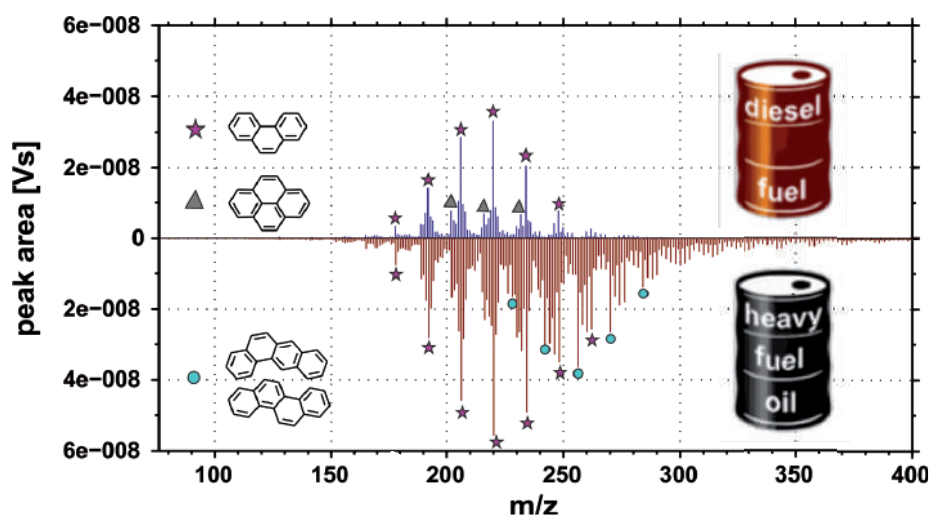
The amount of carbon and volatilised PM constituents can be qualified and classified.

Analysis of PM constituents from

- + marine engine ⁴
- + wood stove ⁵
- + gasoline engine ⁶



EC/OC-PI-TOFMS m/z vs time contour plot (REMPI and SPI) of summer and winter ambient PM from Ispra, Italy ³



REMPI mass spectra (average of OC1 and OC2) from a marine engine operated on diesel fuel (blue) and heavy fuel oil (red) ⁷

1 Streibel 2016 Anal. Chem.
 2 Grabowsky 2011 Anal. Bioanal. Chem.
 3 Diab 2015 Atmos. Meas. Technol.
 4 Sippula 2014 Environ. Sci. Technol.
 5 Czech 2018 Sci. Total Environ.
 6 Miersch 2019 Fuel
 7 Streibel 2017 Environ. Sci. Pollut. Res.



Applications

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

- + ship exhaust
- + wood stove exhaust
- + car exhaust

EC/OC-PHOTO-MS
AMBIENT AEROSOL FILTER PAD ANALYZER



PHOTONION GmbH
Hagenower Str. 73
19061 Schwerin
Deutschland / Germany

T (+49 385) 3993 288
F (+49 385) 3993 281
E info@photonion.de
W www.photonion.de