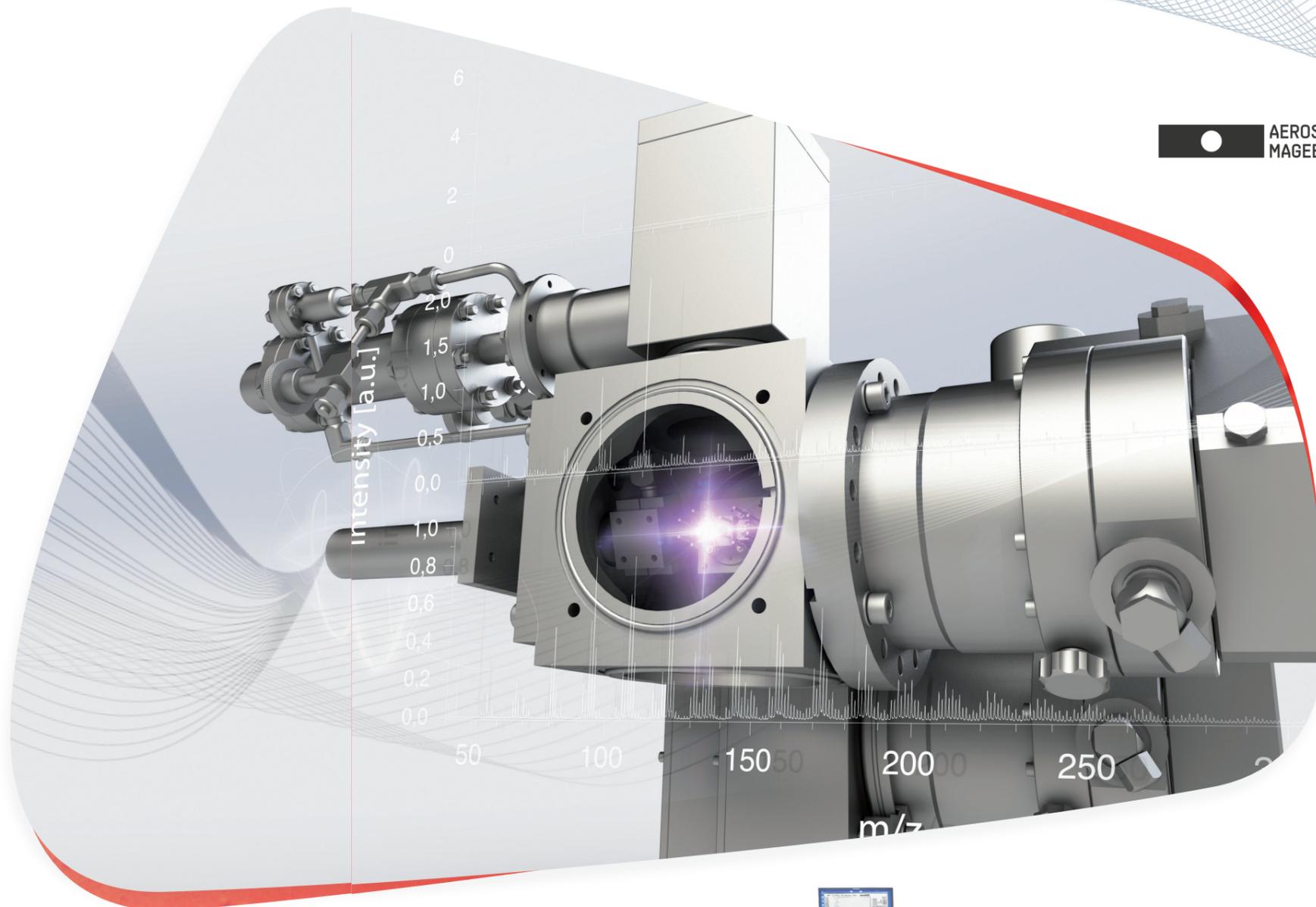*photonion*

AEROSOL
MAGEE SCIENTIFIC

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

Intensity [a.u.]

6
4
2
0
2,0
1,5
1,0
0,5
0,0
1,0
0,8
0,6
0,4
0,2
0,0

50   100   150   200   250

m/z

AEROSOL
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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
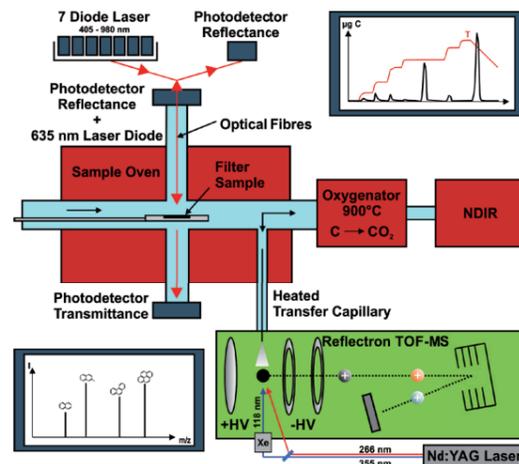
EC/OC-**PHOTO-MS**

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]
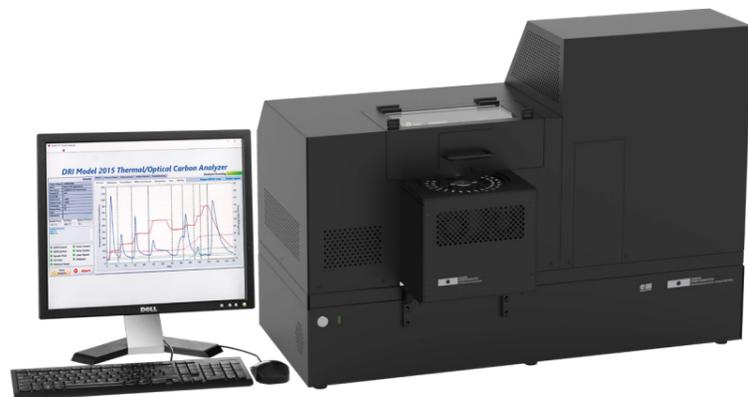
+ METHOD

A hyphenation of AEROSOL'S DRI 2015 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.
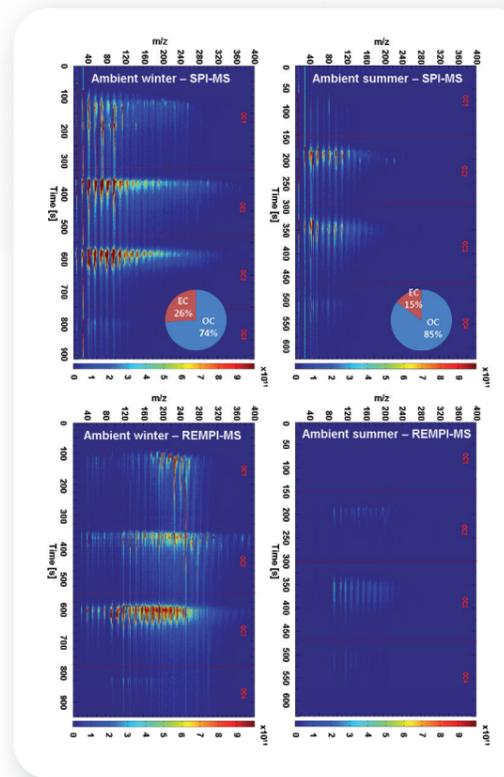
+ APPLICATIONS

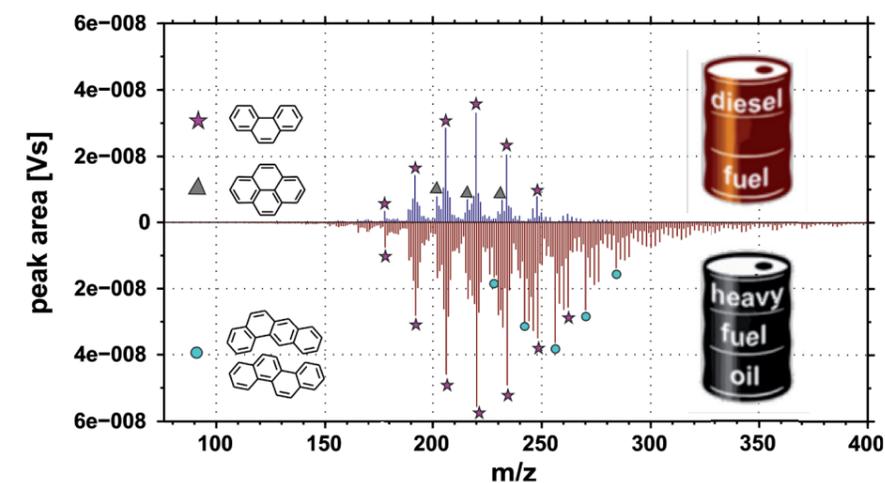Analysis of ambient particulate matter (PM) from quartz fibre filters. [2]

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. Techn.
4 Sippula 2014 Environ. Sci. Technol.
5 Czech 2018 Sci. Total Environ.
6 Miersch 2019 Fuel
7 Streibel 2017 Environ. Sci. Pollut. Res.