Plair
Identify Invisible Threats

Rapid-E

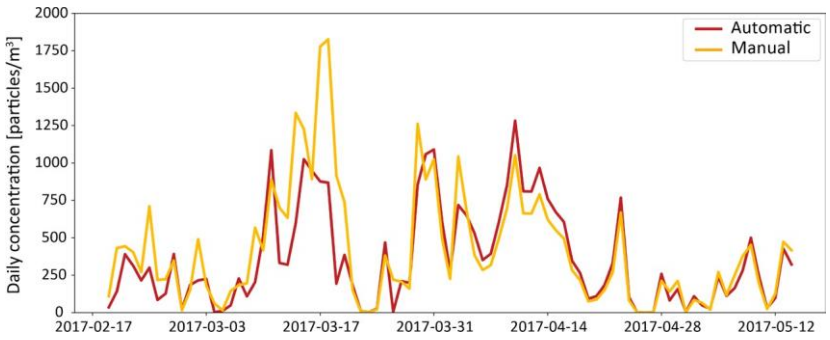
REAL-TIME AIRBORNE PARTICLE IDENTIFIER

BIOAEROSOL DETECTION AND SAMPLING

Rapid-E is an all-optical aerosol detector designed to instantaneously detect and identify allergens, such as pollens and spores, as well as other particulates, including air pollutants and dust. In addition to producing real-time measurements, Rapid-E also collects multiple samples of airborne particles intended for lab-based analysis at a later stage.

EXAMPLE OF PERFORMANCE

Rapid-E vs manual pollen count



APPLICATIONS

- Automatic aeroallergen monitoring (pollen and spores)
- Bioaerosol research
- Air quality studies (PM10, PM2.5, PM1, and polycyclic aromatic hydrocarbons)

KEY FEATURES

- Online single-bioaerosol characterization by light scattering and UV laser-induced fluorescence
- Remote, continuous and real-time monitoring
- Automatic sampling
- Outdoor and indoor operation options

SPECIFICATIONS*

Parameter	Value
Particle size range, micrometers	0.5-100
Sample air flow, liters per minute (LPM)	2.8 (can be extended to 28.3 with concentrator)
Automatic air sampling, number of reusable filters	10
Power consumption, watts	200
Size (H x W x D), centimeters	40 x 34 x 73
Humidity, %	0-95
Weight, kilograms	20

***further specifications provided upon request**

WORKING PRINCIPLE

Rapid-E's technology is based on morphological analysis through light scattering, and chemical analysis through high-resolution, laser-induced fluorescence, and fluorescence lifetime.

For each particle, the parameters of scattered light patterns and laser-induced fluorescence are recorded, representing a unique optical fingerprint. This analysis allows highly precise real-time species identification, with a record low rate of false positives.

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