

Applications

- **Fence-line** monitoring of industrial sites
- **Urban air monitoring** in metropolitan areas
- **Accidental release detection** and identification
- **Leak detection** in industrial facilities
- **Radial plume mapping**
- **Fugitive emissions** measurement

IMACC Inc., 2013



Open-Path UV-DOAS Monitoring

CleanAir offers real-time monitoring of specific target compounds using Differential Optical Absorption Spectroscopy in the Ultraviolet region of the spectrum (UV-DOAS). UV DOAS offers superior sensitivity for compounds such as benzene, toluene, ethyl benzene, xylene (BTEX) as well as nitric oxide, nitric dioxide, sulfur dioxide and chlorine, among others.

Advantages of UV-DOAS

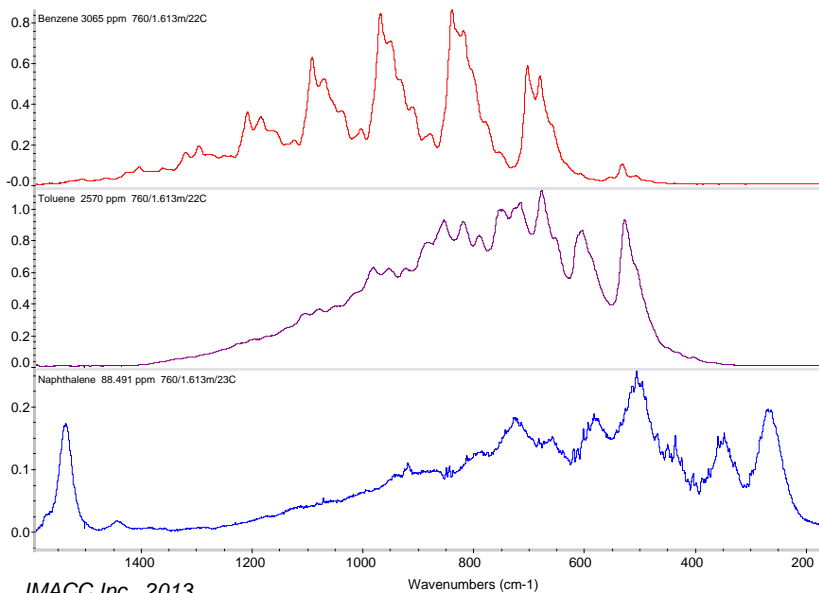
- Field-proven and rugged system able to withstand extreme weather conditions and temperatures
- Measurement path range from 10 m to 1000m
- Real-time monitoring of up to 30 compounds
- Alarming capability for each compound
- Remote monitoring and control
- Built for continuous unmanned operation
- Automatic multi-compound calibration

Innovation & Technology

Typical Detection Limits for a 500m Open Path

Species	Mixing Ratios (ppb)
Benzene	1.5
Chlorine	44.0
Ethyl Benzene	3.3
Formaldehyde	0.6
Xylene (m,p)	1.6
Xylene (o)	7.7

Ultraviolet Absorbance Spectra of Selected Compounds



Open Path Ultraviolet Differential Optical Absorption (UV-DOAS) Spectroscopy

UV-DOAS is a method that determines concentrations of trace gases by measuring their absorption features in the ultraviolet spectral region. In an open path UV-DOAS system, UV light is transmitted through ambient air. After traversing the air mass the light is spectrally analyzed and the concentrations of target compounds are derived. Those typically include BTEX, SO₂ and NO_x, which can be detected at very low concentrations by UV-DOAS.

The use of a telescope transmitting and receiving the UV light allows for the monitoring of long outdoor paths.

Resources

Our unique combination of monitoring expertise, coupled with our extensive technology inventory can help you achieve your business and environmental goals.

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