Ground Truthing Instrumentation and Enclosures for Measuring Criteria Pollutants

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Introduction
Air Quality Monitoring Instrumentation Sales, Technical Support, and Service!
Focused on equipment for all criteria pollutants:
- Sulfur Dioxide
- Ozone
- Carbon Monoxide
- Particulate Matter
- Nitrogen Dioxide
- Hydrogen Sulfide
- Carbon Dioxide
- Nitric Oxide

Along with Other Airborne Analytes of Interest:

Certified to Service Ecotech, Teledyne, Met One, and Ambilabs instrumentation!

PM2.5 Optical Measurements
Purpose: Develop FEM designated PM2.5 measurement with Nephelometer technology.
Why Optical: Noncontact / non-destructive measurement requiring less maintenance time and costs.

Scattering measurements collected in several different climates at two wavelengths:
- Blue (450 nm)
- Red (635 nm)

Methods for mitigating particle size variations:
- Calculate the Scattering Ångström Exponent (SAE)
- Control relative humidity (RH) in the measurement cell.

\[
SAE = - \frac{\ln(\sigma_2) - \ln(\sigma_1)}{\ln(\lambda_1) - \ln(\lambda_2)}
\]

Universal Enclosures
Weatherproof Enclosures for any Environmental Monitoring Needs!
Can be configured with any combination of instrumentation!

New – DETECT MAX
- 10 Analyzers
- 4 Gas Cylinders
- Vacuum Pumps
- Integrated Power

Dimensions
- Height - 40.0 in
- Width - 49.0 in
- Depth - 52.5 in

Small Sensors – Large Datasets!
Measured from a single AQMesh system! Integrated electrochemical sensors and particle counter.

Network of AQMesh Sensors can correlate source of contaminants.
Pod 2451143: Unique PM10 events
Pod 2451142: NO2 Sink

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Nick Katapodis for DETECT enclosure pictures. Maritza Figy for providing AQMesh data.

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Purpose:
- Deploy instrumentation in the field alongside FRM Instrumentation!
- Measure, validate, repeat!

Nephelometer’s measure light scattered off airborne particulates, with the resulting scattered light (σ) intensity being a function of the sample’s concentration and average particle diameter.

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