

Combinatorial optimization algorithms for source apportionment of PM2.5 on teflon filters

Daniel Kennedy, Beizhan Yan, Marco Ballesta , Steve Chillrud

Optical measurement performed with balanced deuterium tungsten halogen light source; non-destructive

End Members:

- kerosene soot
- sidestream tobacco smoke
- ammonium sulfate
- goethite
- hematite
- magnetite

4 wavelengths vs. 10 wavelengths

Optical measurement as ETS
exposure proxy

Still exploring possible end members

