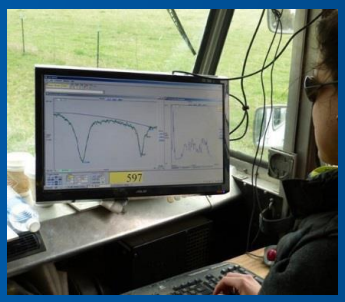
AERODYNE RESEARCH, Inc.

Aerodyne Mini-TILDAS Ethane Monitor



Field measurements of ethane.

Fast and precise measurement of ethane and methane.

APPLICATIONS

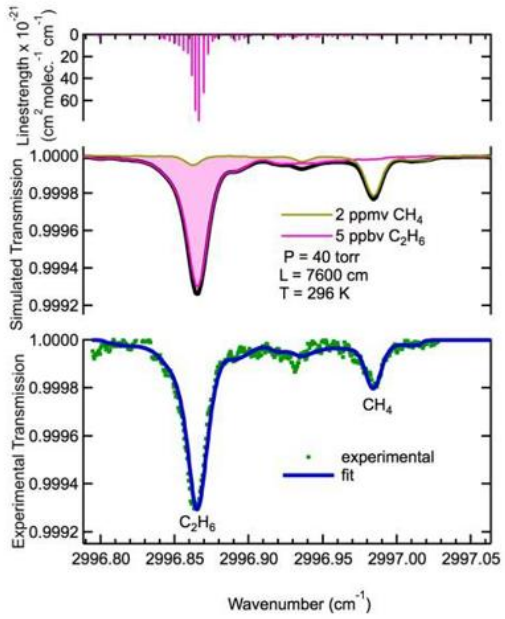
- Immediately differentiate biogenic (eg. cow rumination) and thermogenic (eg. natural gas) emissions in field studies.
- Identify and characterize methane sources using the ethane/methane ratio.
- Ethane/methane ratios complement and enhance methane isotope studies.
- Natural gas leak-detection vehicles and aircraft.
- Ambient air monitoring in regions with active oil and gas activities, with installation in towers, vehicles or aircraft.
- Oil and gas emissions studies from individual facilities up to entire regions.
- Pipeline leak detection.

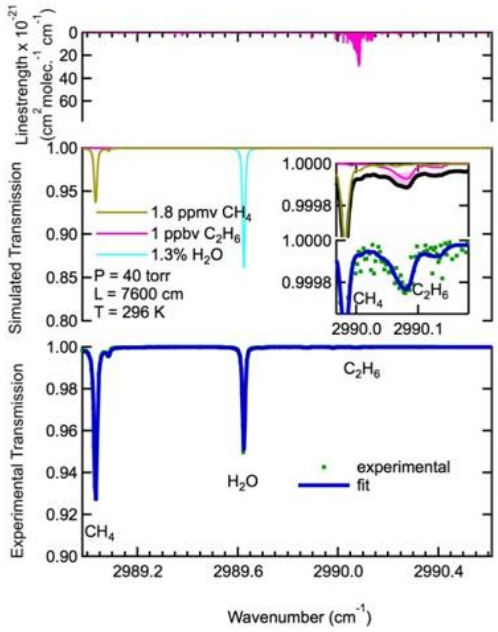
ADVANTAGES

- Fast measurement (1 second or less) provides significant benefits over canister measurements.
- Ethane mini can be installed in a 19" rack for mobile or laboratory measurements.
- Simultaneous monitoring of ethane and methane possible with the 2990 cm^{-1} laser.
- Typical ethane content of natural gas is much greater than the natural abundance of carbon-13 in methane, allowing source characterization with lower signal to noise.

Mini-TILDAS Ethane Monitor

SPECIFICATIONS





Ethane Only	
	C_2H_6
1 s	25 ppt
60 s	8 ppt
Measurement Range	25 ppm

Ethane plus Methane			
	C_2H_6	CH_4	H_2O
1 s	50 ppt	300 ppt	10 ppm
60 s	15 ppt	100 ppt	3 ppm
Measurement Range	50 ppm	100 ppm	10%

2 spectroscopic regions available:

The ethane-only option offers enhanced precision and a lower detection limit. This region is recommended in applications where methane and water are being measured by a secondary instrument or for high precision monitoring of low concentration ambient ethane levels (e.g. 0 – 4 ppb ethane).

Ethane and methane can be measured together with a small increase in ethane measurement noise. Recommended in applications where total instrumentation size or weight is limited and for measurements of ethane and methane “plumes” with significant enhancements above background (e.g. 50 ppb ethane).

REFERENCES

Instrument and Technology

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Applications

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