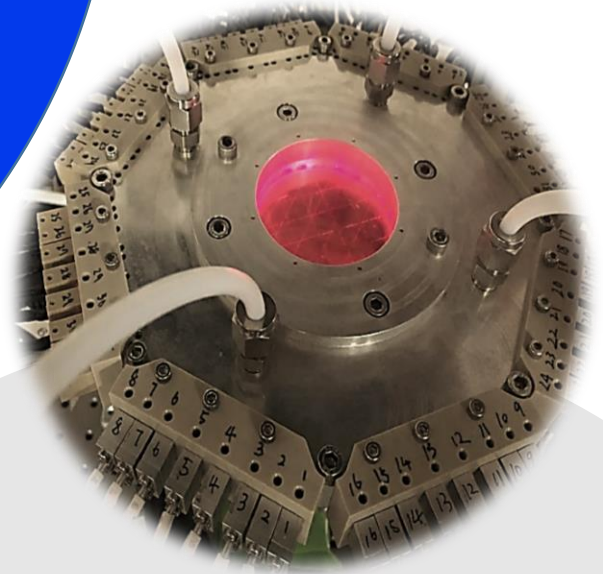


CT-TDLAS-I

2D Time series Temperature and Concentration distributions measurement system



What is CT-TDLAS?

CT-TDLAS is the measurement system which can detect time-series 2D temperature and concentration distributions in combustion, reaction and flow fields. Multi-path laser beams are introduced to the measurement area using CT cell. 2D temperature and concentration distributions are reconstructed by CT using multi-path absorption spectra.

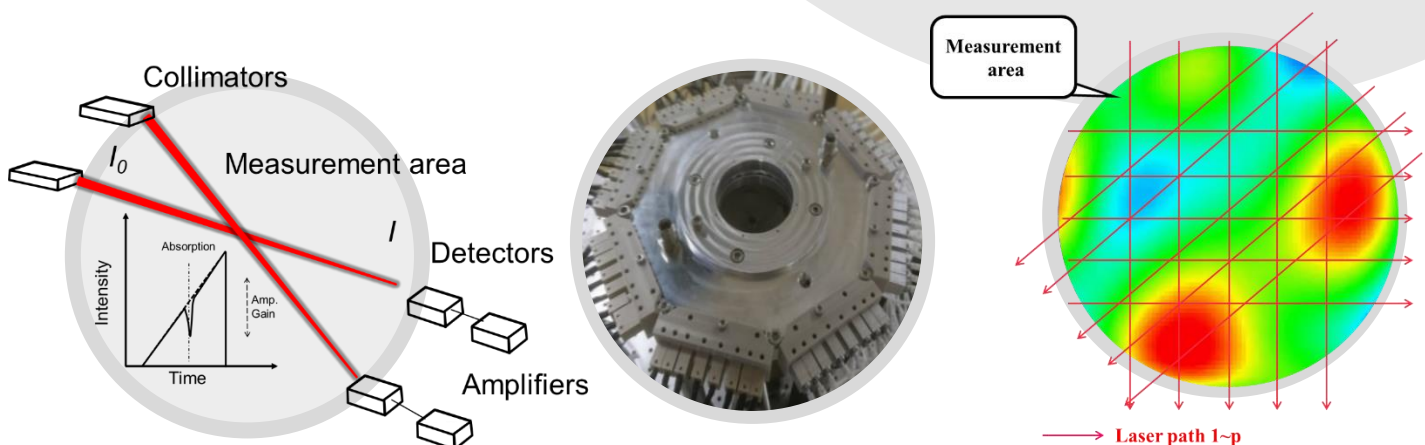
Applications

CT-TDLAS can be applied to engines, burners, boilers and reaction chambers for time-series 2D temperature and concentration measurements.

- Time-series 2D temperature and concentration
- Multi-species detection at kHz
- High durability measurement
- Quantitative analysis
- For process control & monitoring

Equipment

The laser beams are irradiated into the measurement area by collimators. The transmitted laser intensities are detected by photodiodes after passing through the area and recorded by the CT analyzer with amplifiers and recorders.

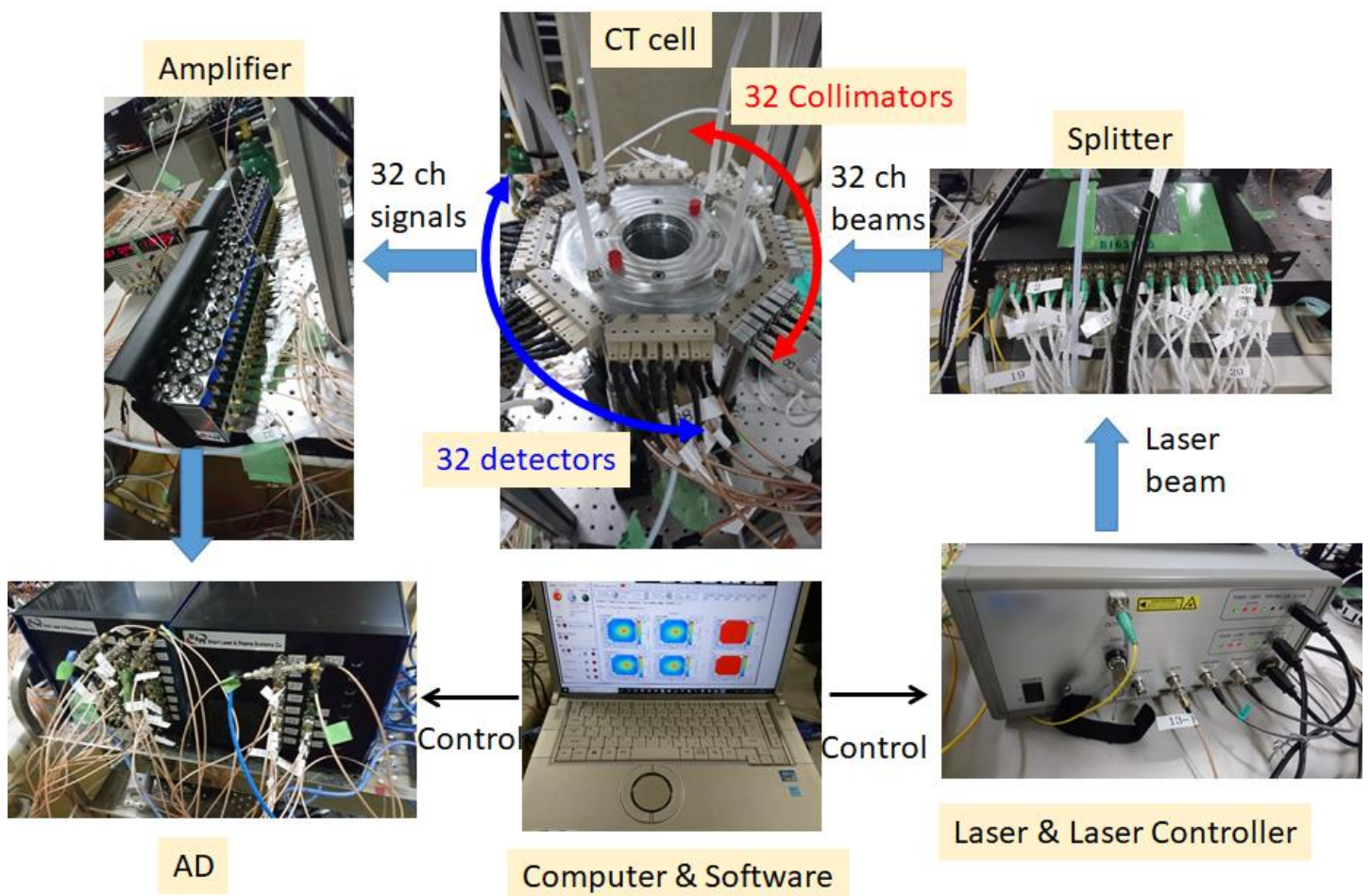


Specification

Custom design is also possible.

Number of laser path	32ch
Method	CT-Tunable Diode Laser Absorption Spectroscopy (CT-TDLAS)
Target	Engine, Burner, Boiler, Semiconductor production equipment etc.
Detectable species	Temperature (300~2000K), NH ₃ , Fuel, CO ₂ etc.
Pressure range	~5MPa
Spatial resolution	Less than 5 mm in the area of $\Phi 70\text{mm}$
Measurement area	Normal size : $\Phi 70\text{mm}$
Measurement area separation	With quartz glass ring
CT-Cell Size	250mm \times 250mm \times 10mm

System Layout



Related product

Image	Product name	Part number	Description
	Laser	LA-1388-DFB	Laser Wavelength : 760-3400nm Wavelength accuracy : $\pm 1\text{nm}$ (Single-mode, Multi-Mode) Type: DFB(butterfly 14 pin package), DFG laser
	Laser Controller	LC-2Ch-DFB-14BTF	Type : Dual channel Current control: 0~300mA(Modulated signal: 0- 3V, ~200kHz) Temperature control: PID Control (accuracy: $\pm 0.1^\circ\text{C}$, $0^\circ\text{C}\sim 40^\circ\text{C}$) Waveform Signal generator (FG) : $\pm 5\text{V}$, 14bit
	Splitter	SP-1.3-2.0-1x32	Type : Fiber (FC/APC) Wavelength : 1300-2000nm Split number: 1x32
	Collimator	CC-CT-1.3-2.0	Wavelength : 1300-2000nm (Possible range : 200-3400nm) Type : Fiber (FC/APC) Adjust : X-Y adjust screw
	Detector	DC-CT-1.3-2.0	Wavelength : 1300-2000nm (Possible range : 200-3400nm) Connector : SMA-J Detector ; $\Phi 1\text{mm}$
	Amplifier	AP-32ch-10MHz-20db- IO1M50-SMAJ	Frequency : DC-10MHz Number of channel : 32ch Voltage ratio of IN/OUT: Adjustable Connector : SMA (Input/Output)
	AD	AD-32ch-20MHz-12bit- I1M-BNC	Number of channel : 32ch Vertical resolution : 12bit Bandwidth : 20MHz Connector : BNC (Input) Connector: Internet (Output)
	CT-Cell-32	Cell-CT-32ch	Number of channel : 32ch Adaptor for Collimators and Detectors Collimator : CC-CT-1.3-2.0 Detector : DC-CT-1.3-2.0



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