

# Picosecond Programmable Mid-IR Fiber-Based Lasers

Genia Photonics' fiber-based Mid-IR lasers deliver short picosecond pulses covering the lower mid-IR region at a repetition rate that is fully programmable. The lasers can deliver varied output power up to 10 mW while maintaining a very high signal to noise ratio.

Among the many advantages of the Mid-IR lasers is its tunability capability in the high wavenumber band (2850cm<sup>-1</sup>-3200cm<sup>-1</sup>) or in the fingerprint region; enabling the detection of various chemical substances over a wide spectrum. Light delivery is over extended fiber, which allows for remote detection of substances of interest.

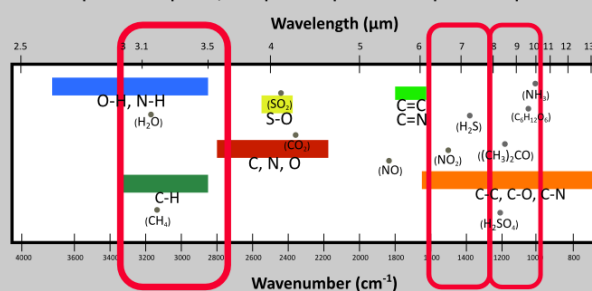
Genia Photonics' Mid-IR lasers are the ideal Mid-IR sources for applications that target applications involving the investigation and analysis C-H O-H and N-H bonds as well as applications such as explosive detection and industrial gas analysis. The fiber delivery allows for such analysis to be performed at a remote distance from the area being analyzed.

Genia Photonics' Mid-IR lasers offer great flexibility that can meet many demanding configurations and setups.

## Key Features:

### Available Emission Wavelengths

3.1μm - 3.5μm\*, 6.7μm - 8μm and 8μm - 10μm



### Pulse train

Repetition rate : 10 - 40 MHz  
 Average Power : up to 10mW for 3.1 - 3.5μm  
 up to 250μW for 6 - 10 μm  
 Good SNR and low time jitter

### Laser pulse

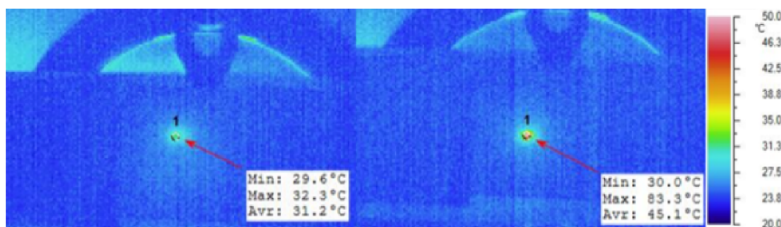
Pulse duration : 100 ps  
 Free-space/Collimated output

### Laser deployment

Short warm-up time < 5 mn  
 Air cooled  
 Remote control interface.  
 Power Supply: 110 - 240 VAC  
 Network Connection: USB Std Type B

\*Range from 2.95μm to 3.67μm available upon request

## Use Case: Chemical Sensing Application



The results above show the detection and sensing of a chemical substance with high sensitivity and high specificity using Genia Photonics' Mid-IR fiber laser.