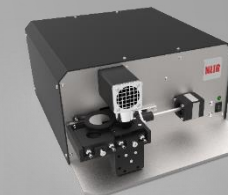
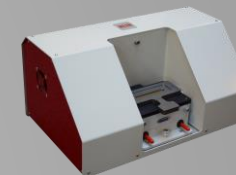


**Super Fast & Ultra Sensitive
Mid-Infrared Spectrometer & Detectors**

NLIR

Mid-Infrared Sensors



The NLIR Technology

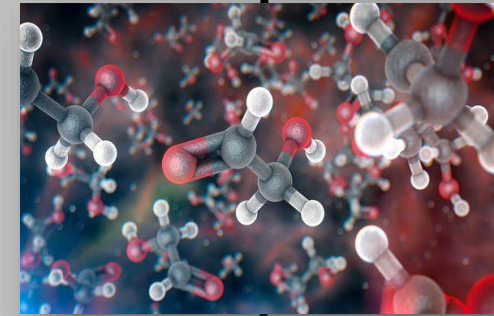
Primary molecular vibrations resides in MIR

Silicon's detectivity is better than MIR materials'

	Detectivity D*	Cooling
Silicon	10^{12}-10^{13}	No
MIR materials	10^9 - 10^{10}	Recommended

**Best of both worlds:
Using Silicon for MIR
measurements**

Mid-Infrared light



**Non-Linear
Upconversion**

700-1000nm light

Si detector

Mid-Infrared Sensors



Single-Wavelength Detectors

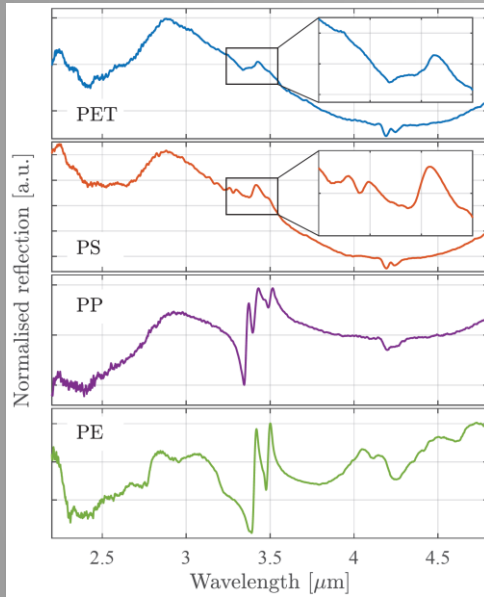
Up to 10 GHz bandwidth
NEP down to $2 \text{ fW}/\sqrt{\text{Hz}}$



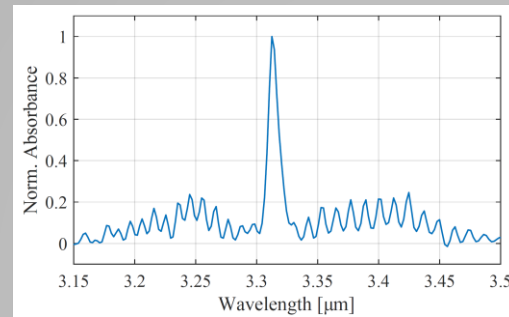
Fiber Spectrometer

Unprecedented combination of
Speed & Sensitivity & Resolution !

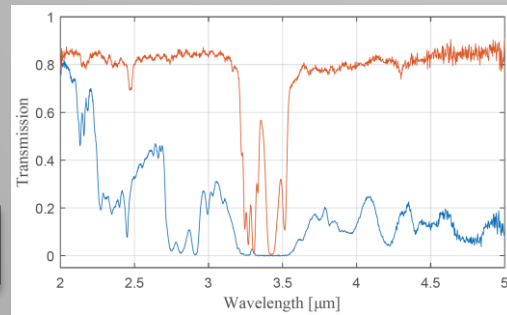
Mid-Infrared Fiber Spectrometer



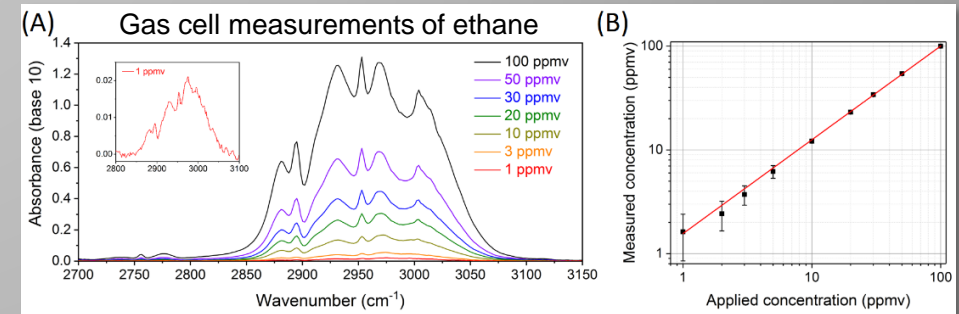
Plastic Type Identification



Carbon Hydrate gas monitoring



Mid-infrared supercontinuum-based upconversion detection for trace gas sensing, Opt. Exp. Vol. 27 No. 19 (2019)



Food storage gas analysis



**Mid-Infrared Differential Absorption LIDAR
- a EUREKA-funded project**

Aiming at a compact and cost-effective highly sensitive DIAL system based on a widely tunable mid-infrared laser in combination with a tunable low-noise and very sensitive detector



What can we do for each other?

We are always looking for new applications

What applications do you see could benefit by having our fast and sensitive sensors?

We are looking for partners



We also have an OEM strategy - partnering up with Integrators / System builders



NLIR

Mid-Infrared Sensors

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