

## Description

Temperature-sensitive opto-mechanical resonators for long-wavelength radiation detection.

Unprecedentedly high detectivity and NEP nearing the fundamental temperature fluctuations noise limits.



Currently at TRL4-5, and available for early adopters in 2026 (room temperature, active pumping version).

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## Key advantages

- Cryo-free, room temperature operation nearing the noise performance of LN2-cooled mercury cadmium telluride detectors (MCT)
- LN2 cooled performance nearing the performances of liquid helium superconducting bolometers
- Extremely high linearity and dynamic range:  $10^{-12}$  –  $10^{-1}$  W
- Liquid nitrogen-cooled version
- Flexible detector area (built to order)
- Applications: cryo-free FTIR, Spectroscopy, Industrial inspection, R&D, defense

## Specs<sup>a</sup>

	Our Product	State of the Art Pyroelectrics
<b>Peak Detectivity</b>	$\sim 10^{10} \text{ cm Hz}^{1/2} \text{ W}^{-1}$	$< 10^9 \text{ cm Hz}^{1/2} \text{ W}^{-1}$
<b>Peak Detectivity @ 77 K</b>	$\sim 10^{11} \text{ cm Hz}^{1/2} \text{ W}^{-1}$	N/A
<b>Noise Equivalent Power</b>	$40 \text{ pW}/\sqrt{\text{Hz}}^b$	$400 \text{ pW}/\sqrt{\text{Hz}}$
<b>Minimum Detectable Signal</b>	$0.2 \text{ nW}^c$	$1 \text{ nW}$
<b>Max Power</b>	$125 \text{ mW}$	$< 300 \text{ }\mu\text{W}$
<b>3 dB Bandwidth</b>	$> 100 \text{ Hz}$	$\sim 10 \text{ kHz}$
<b>CW Light-Compatible</b>	Yes	No
<b>Active Detector Area</b>	$0.01\text{-}10 \text{ mm}^2$	$\leq 4 \text{ mm}^2$
<b>Optical Bandwidth</b>	Near-IR – Terahertz (window limited)	

<sup>a</sup> Unless noted otherwise, specs are for room temperature operation

<sup>b</sup> For a 0.3 mm detector

<sup>c</sup> Measured for a 2 Hz signal.

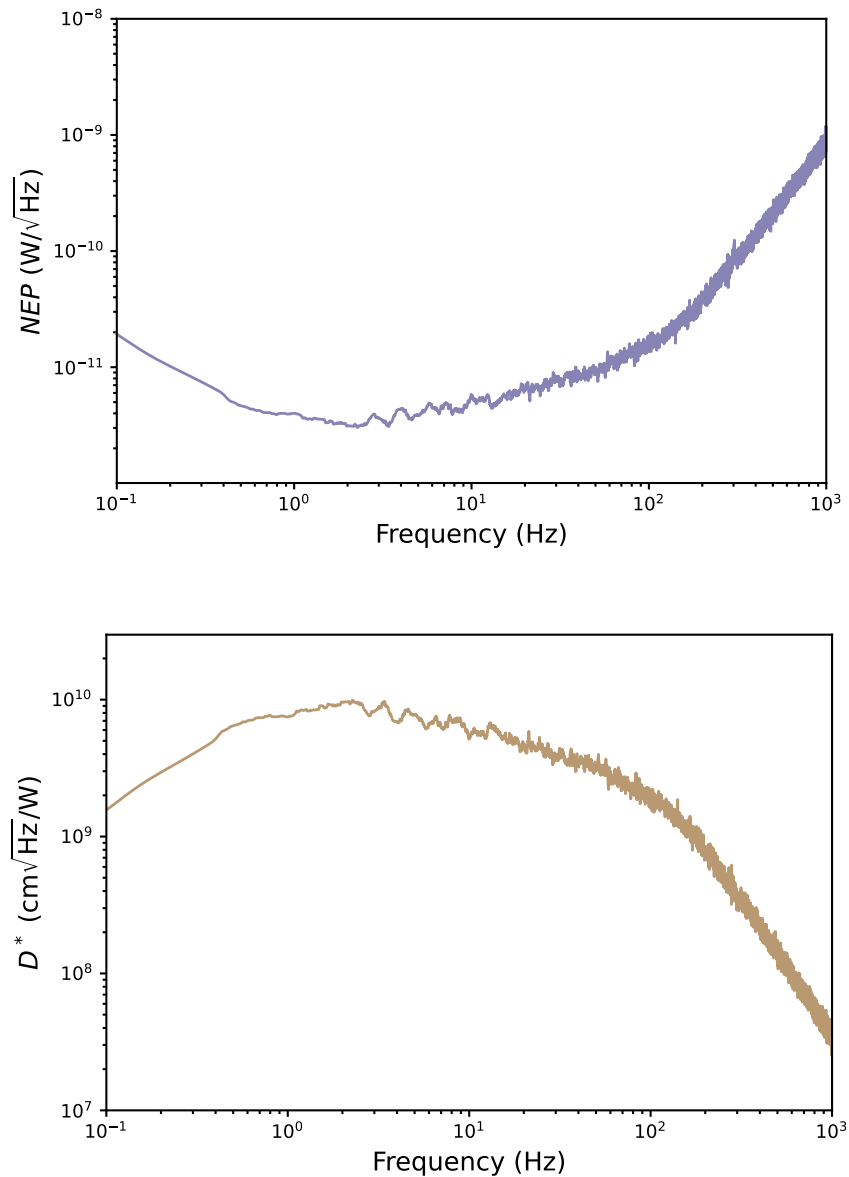


Figure 1: Measured Noise equivalent power and Detectivity at room temperature (0.3 mm detector).