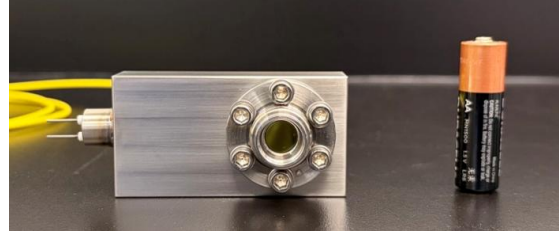


## Description

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 version).

Spinoff of University of Ottawa, Canada.

## 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>          | $\sim 10^{10}$ cm Hz <sup>1/2</sup> W <sup>-1</sup> | $< 10^9$ cm Hz <sup>1/2</sup> W <sup>-1</sup> |
| <b>Peak Detectivity @ 77 K</b>   | $\sim 10^{11}$ cm Hz <sup>1/2</sup> W <sup>-1</sup> | N/A   |
| <b>Noise Equivalent Power</b>    | 40 pW/√Hz <sup>b</sup>                              | 400 pW/√Hz                                    |
| <b>Minimum Detectable Signal</b> | 0.2 nW <sup>c</sup>                                 | 1 nW  |
| <b>Max Power</b>                 | 125 mW  | < 300 μW                                      |
| <b>3 dB Bandwidth</b>            | >100 Hz   | ~10 kHz                                       |
| <b>CW Light-Compatible</b>       | Yes   | No  |
| <b>Active Detector Area</b>      | 0.01-10 mm <sup>2</sup>                             | ≤ 4 mm <sup>2</sup>                           |
| <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.

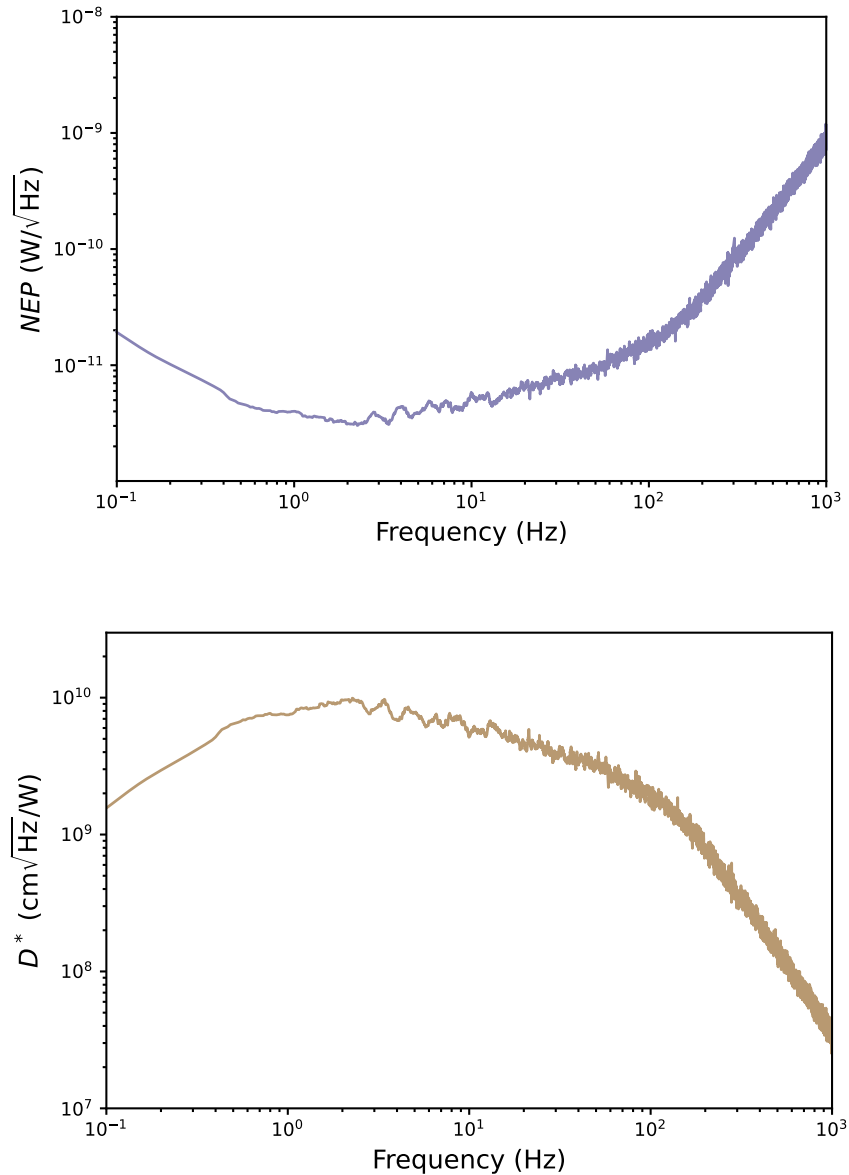


Figure 1: Measured Noise equivalent power and Detectivity at room temperature (0.3 mm detector).