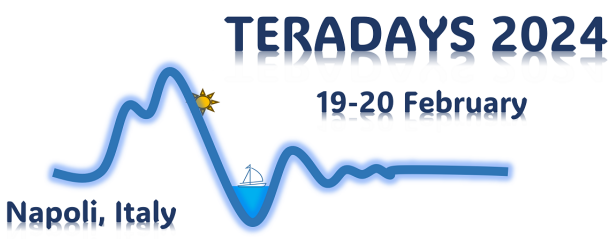

Abstract ID : **15**

Micro-thermo-mechanical THz detectors

Content

Thermomechanical bolometers based on high-quality mechanical resonators are a promising technology for broadband light detection. Further functionalities can be added by controlling the absorption spectrum of the devices. To this end, we embedded (almost-) 2D layers, minimally impacting the mechanical quality while, at the same time, offering strong absorbance. Further layer patterning could grant resonant absorption, for hyperspectral imaging or polarization sensitive detection. Transduction is usually performed through optical probing of the mechanical resonance, but direct electrical output can also be obtained through magnetic flux modulation, provided the mechanical object contains an inductive element. The concept is particularly useful in array read-out, where many elements with different mechanical frequencies can be easily addressed in parallel.

Primary author(s) : TREDICUCCI, Alessandro

Presenter(s) : TREDICUCCI, Alessandro

Submitted by **TREDICUCCI, Alessandro** on **Thursday 18 January 2024**