LICENSING OPPORTUNITY: AN OPTICAL READOUT FOR A THERMAL DETECTOR ARRAY

DESCRIPTION

Problem

An optical readout for a thermal detector array solves several critical problems in systems that require the detection and measurement of infrared (IR) radiation or heat.

Invention

The invention is a readout method for a novel detector array designed to measure mm-wave, submm, THz, and/or IR. The main components are a waveguide, waveguide splitters, waveguide-coupled resonator pixel array (primary), and a secondary detector array.

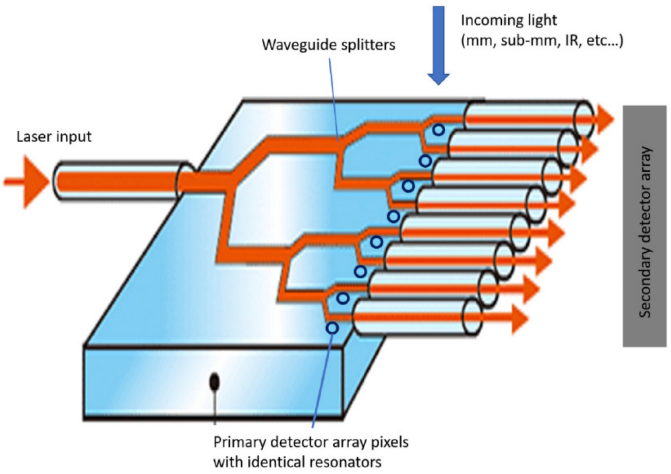
BENEFITS

Commercial Application

- Infrared imaging
- Surveillance
- Medical diagnostics
- Industrial monitoring
- and many more fields.

Competitive Advantage

- The detector array is potentially much more sensitive, stable, and fast due to the passive, negative photothermal feedback.
- The lack of metal traces to each pixel potentially increases the thermal isolation of each pixel.
- The use of optical resonators as temperature sensors potentially increases the sensitivity to incoming radiation (due to high Q factors and low noise).



Schematic showing one implementation.

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