LICENSING OPPORTUNITY: THERMALLY COUPLED IMAGER FOR PERFORMING TIME AND POSITION SENSITIVE IMAGING OF SINGLE PHOTONS

DESCRIPTION

Problem

Although, superconducting nanowire single photon detectors (SNSPD)s are the leading technology for single photon detection, featuring high count rates (>100 MHz), low timing jitter (<5 ps), and low dark counts(< 1 Hz), the efficient multiplexed readout of N pixels with many fewer than N wires remains an unsolved challenge.

Invention

A SNSPD imager which will be capable of reading out at least tens of thousands of detectors. This array, the SNSPD "thermally-coupled imager" (TCI) efficiently multiplexes SNSPDs on a single readout line and is capable of resolving both location and time-of-arrival of single photons over a large {> 1 mm) area.

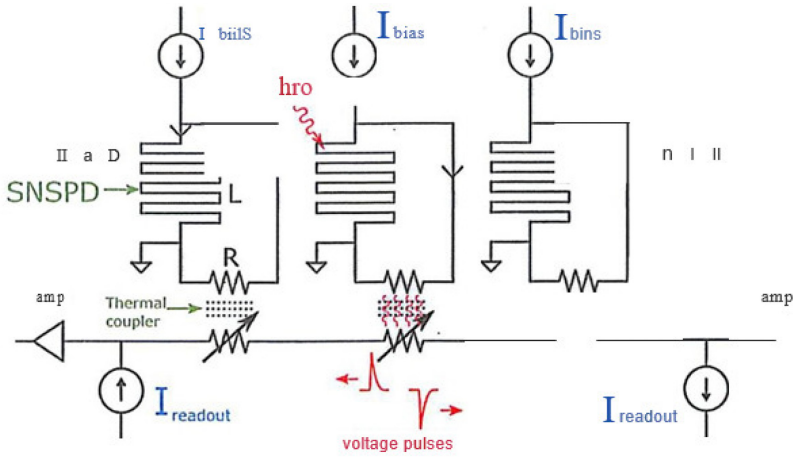
BENEFITS

Commercial Application

- SNSPD detector companies
- Quantum opus Space communications
- Photonic quantum computing companies using SNSPDs
- Astronomy

Competitive Advantage

Broad range of applications, and capability of operating efficiently in a very broad range of wavelengths.



Schematic diagram of the superconducting nanowire single photon detector (SNSPD) thermal imager.

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