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 YYYY-MM-DD — YYYY-MM-DD

👤 + *Inventor*

🏢 PsiQuantum ✕ or + *Assignee*

Patent Office ▾ Language ▾

Status ▾ Type ▾

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Orbital angular momentum

WO US GB · US9103975B2 · Siyuan Yu · The University Of Bristol
 Priority 2012-06-01 · Filed 2013-05-29 · Granted 2015-08-11 · Published 2015-08-11
 The invention relates to methods, devices, systems and uses of such systems for the generation and detection of electromagnetic fields carrying orbital angular momentum. An electromagnetic wave placed in a resonator having a closed-loop waveguide supporting a guided wave propagating at resonance ...

Optical source

US GB · US9235101B2 · Joshua Wimbridge Silverstone · The University Of Bristol
 Priority 2013-02-19 · Filed 2014-02-18 · Granted 2016-01-12 · Published 2016-01-12
 An integrated optical device and method for generating photons by manipulating path entanglement is provided. An integrated optical splitter splits pump light between two interferometer arms wherein each arm comprises a substantially identical photon pair source configured to be able to convert at ...

Superconductor-based transistor

WO US · US20190035904A1 · Faraz Najafi · PsiQuantum Corp.
 Priority 2017-07-28 · Filed 2018-07-26 · Published 2019-01-31
 The various embodiments described herein include methods, devices, and systems for fabricating and operating transistors. In one aspect, a transistor includes: (1) a semiconducting component configured to operate in an on state at temperatures above a semiconducting threshold temperature; and (2) ...

Niobium-germanium superconducting photon detector

WO US · US10197440B2 · Faraz Najafi · PsiQuantum Corp.
 Priority 2017-06-15 · Filed 2018-06-19 · Granted 2019-02-05 · Published 2019-02-05
 The various embodiments described herein include methods, devices, and systems for fabricating and operating niobium-germanium-based superconducting devices. In one aspect, a device includes a superconducting nanowire composed of niobium-germanium, a protective layer configured to inhibit ...

Optical apparatus and method for outputting one or more photons

US GB · US9952482B2 · Terence Rudolph · The University Of Bristol
 Priority 2015-09-11 · Filed 2016-09-09 · Granted 2018-04-24 · Published 2018-04-24
 There is presented an optical apparatus comprising first and second photon pair sources configured to convert at least one pump light photon into a first and second correlated signal and idler photon pairs. In one example, the apparatus is configured to use one of the signal and idler photons from ...

Photon sources with multiple cavities for generation of individual photons

WO US · US10247969B1 · Damien Bonneau · PsiQuantum Corp.
 Priority 2018-06-21 · Filed 2018-06-21 · Granted 2019-04-02 · Published 2019-04-02
 A photon source device includes a substrate and a first waveguide arranged on the substrate. The first waveguide is coupled with a first pair of reflectors defining a first resonant cavity in the first waveguide. The first resonant cavity is configured for outputting a first output wavelength and ...

Coupled resonator photon-pair sources

WO US · WO2020101749A2 · Mihai Dorian Vidrighin · PsiQuantum, Corp.
 Priority 2018-11-15 · Filed 2019-06-20 · Published 2020-05-22
 Techniques disclosed herein relate to photon sources with high spectral purity and high brightness. In one embodiment, a photon-pair source includes a pump waveguide, a first resonator coupled to the pump waveguide to couple pump photons from the pump waveguide into the first resonator, a second ...

Methods and Devices for Impedance Multiplication

WO US · US20190148848A1 · Faraz Najafi · PsiQuantum
 Priority 2017-11-13 · Filed 2018-09-19 · Published 2019-05-16
 The various embodiments described herein include methods, devices, and systems for fabricating and operating superconducting circuits. In one aspect, an electric circuit includes: (1) a first superconducting component having a first terminal, a second terminal, and a constriction region between ...

Superconductor-to-insulator devices

US · US10573800B1 · Faraz Najafi · PsiQuantum Corp.
 Priority 2018-08-21 · Filed 2018-08-21 · Granted 2020-02-25 · Published 2020-02-25
 The various embodiments described herein include methods, devices, and systems for fabricating and operating superconducting switch devices. In one aspect, an electrical circuit includes: (1) a switch device configured to switch between an on state and an off state in response to a first voltage, ...

Superconducting Field-Programmable Gate Array

US · US20200136625A1 · Faraz Najafi · PsiQuantum Corp.
 Priority 2018-10-27 · Filed 2019-10-17 · Published 2020-04-30
 The various embodiments described herein include methods, devices, and systems for operating superconducting circuitry. In one aspect, a programmable circuit includes: (1) a superconducting component arranged in a multi-dimensional array of alternating narrow and wide portions, the superconducting ...

