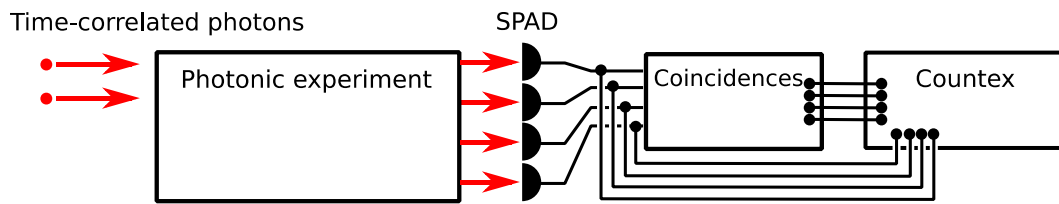


Linear quantum optics



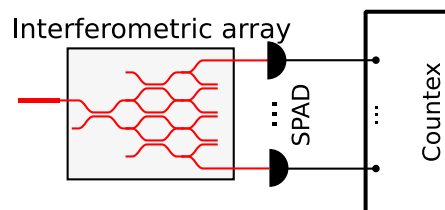
How a counter is used?

Counter measures how many photons arrived on the single-photon detectors and how many coincidences occurs between detectors.

How Countex helps?

- Avoid having to daisy-chain many counter modules, Countex have enough inputs. Save some space in laboratory and USB ports in your computer.
 - With a coincidence unit, avoid time-tag processing and save hard-drive space.
-

Boson sampling



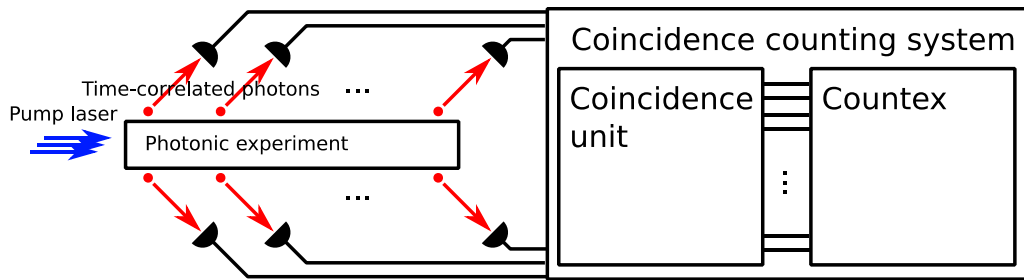
How a counter is used?

Single-photons are input into an interferometric array. At the output of array, photons are detected by single-photon detectors. A counter measures how many photon per second arrives at which output port.

How Countex helps?

- Avoid having to daisy-chain many counter modules, Countex have enough inputs. Save some space in laboratory, ports in your computer and simplify the measurement software by having a single device to measure rates on all detectors.
-

Multiple-photon entanglement characterization



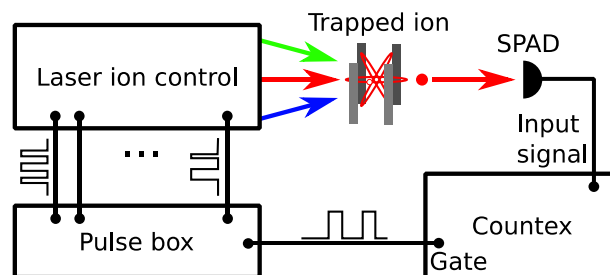
How a counter is used?

Each photon is detected by single-photon avalanche detectors. Photon rates is detected by single-clicks, while simultaneous detection events are processed by a coincidence unit. Detection events are registered using counter.

How Countex helps?

- With 16 input channels, Countex provide enough input for coincidence and single-click channels.
- With help of a coincidence unit, count coincidences directly and avoid storage and processing of huge time-tag files.

Trapped ions experiments



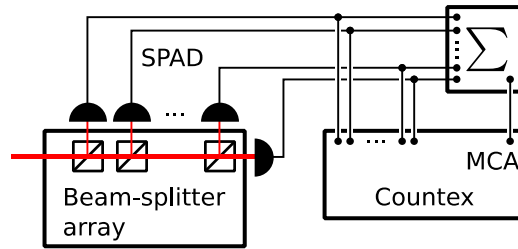
How a counter is used?

The quantum state of a trapped ion is first manipulated by laser pulse sequence. Then, a readout laser pulse is applied and ion fluorescence photons are detected by single-photon detectors. Rare of fluorescence-photons is measured by a counter.

How Countex helps?

- With low latency and automatic readout & reset on gate end, save valuable time between experiment repetitions.
 - Simplify your measurement software – Countex can be driven solely by external pulse box and there is no need for PC to command Countex during the measurement, just one command on to set Countex into external gating mode and one command to collect the data.
-

Photon-number resolving detectors



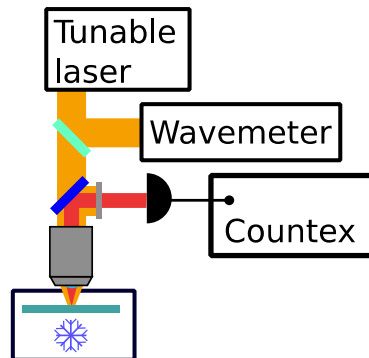
How a counter is used?

The splitting ratio of the beam-splitting measured by measuring photon flux. On single-photon level, the photons are detected by single-photon detectors. The voltage pulses from single-photon detectors are counted by a counter.

How Countex helps?

- With web-interface and real-time plotting, monitor the photon flux directly on the screen of Your phone while adjusting the experimental setup.
- With analog pulse-summer and built-in pulse-height analysis, directly measure photostatistics
- Avoid complicated search for many-fold coincidences in huge time-tag files.

Laser excitation spectroscopy



How a counter is used?

The tunable laser excites the sample, while its wavelength is scanned. Photons emitted from the sample are detected by single-photon detectors and the electronic signal from detector is processed with a counter.

How Countex helps?

- With low readout latency, scan with greater density.
- Use external gating mode and gating signal to synchronize your measurements.
- With convenient Countex package for Python, simplify your scanning software.