

MICRO-428: Metrology

Week 14: quantum Metrology

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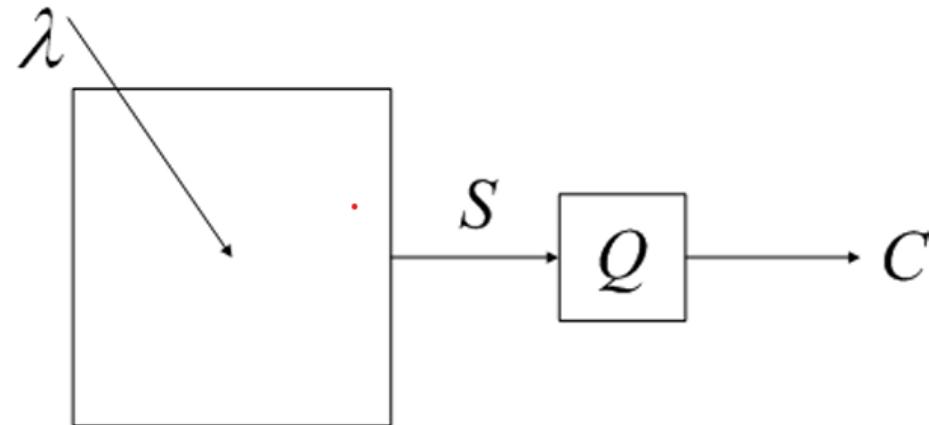
Advanced Quantum Architectures Laboratory (AQUA)

EPFL at Microcity, Neuchâtel, Switzerland

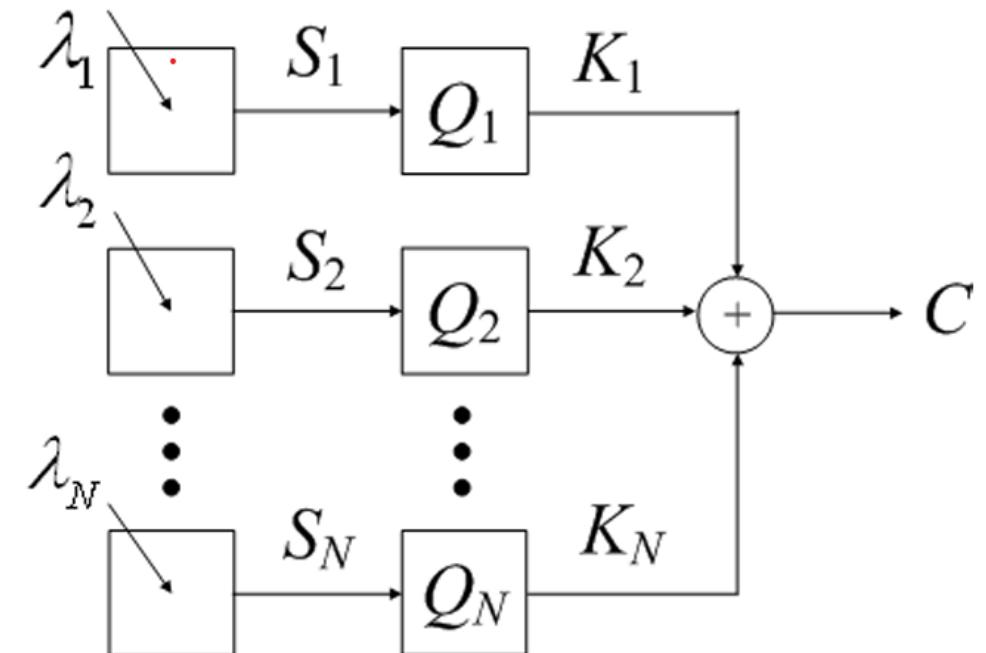
EPFL

Exercise 1: Gigavision camera

Conventional Pixels:



Gigavision Pixels:



Exercise 1: Gigavision camera

The arrival of photons is well represented by Poisson distribution.

- 1) Given a threshold of detection T find the probability of detection: $p_\lambda = P[S_i \geq T]$
- 2) Knowing the expected count ($E[C]$) derive the incoming flux.