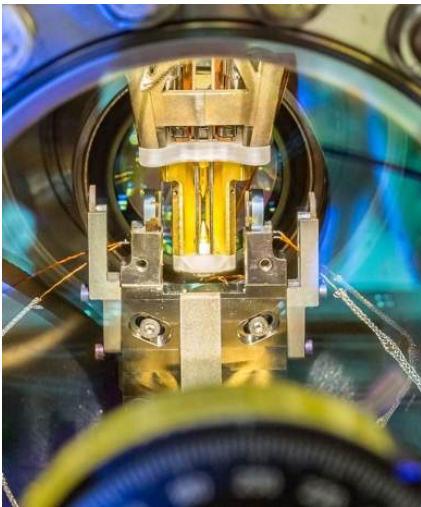
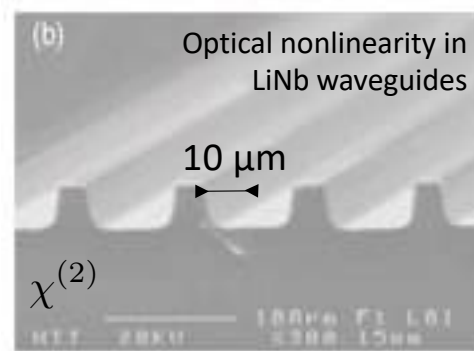


Our experimental platforms

Ion-trap with optical cavities



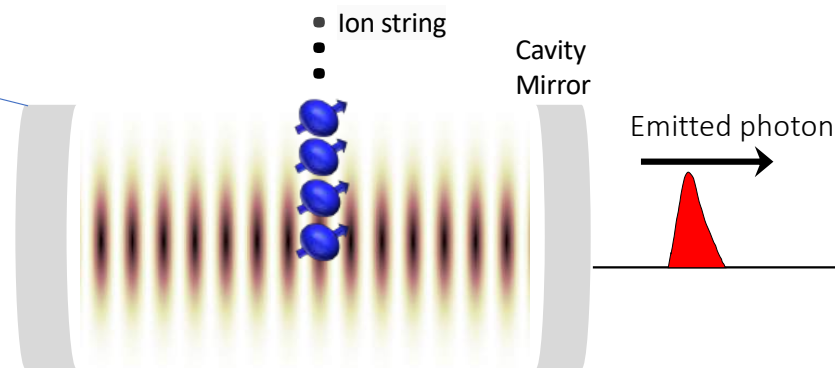
Photon wavelength conversion



Off-campus fiber network



Transportable quantum node



Some recent results

Entanglement of ions over 230 meters

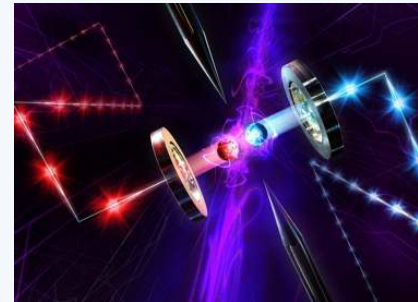


Krutynski & Galli *et al*, Phys. Rev. Lett. **2023**

Editor's choice

See article "Trapped ions go the distance":

A quantum repeater node



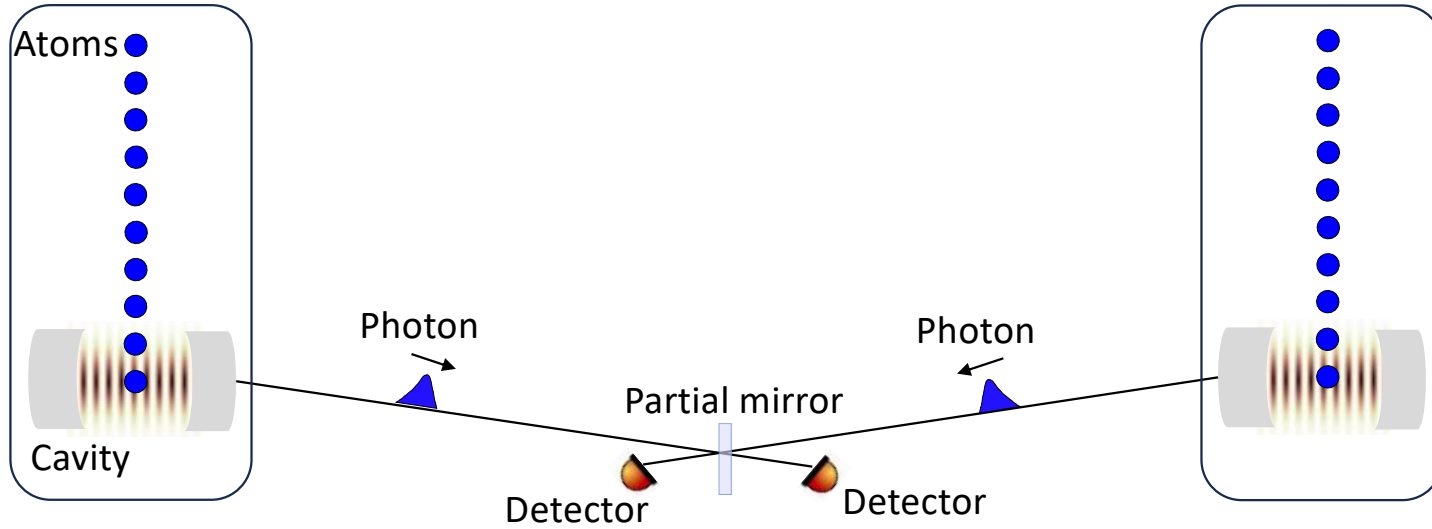
Krutynski *et al*, Phys. Rev. Lett. **2023**

Editor's choice

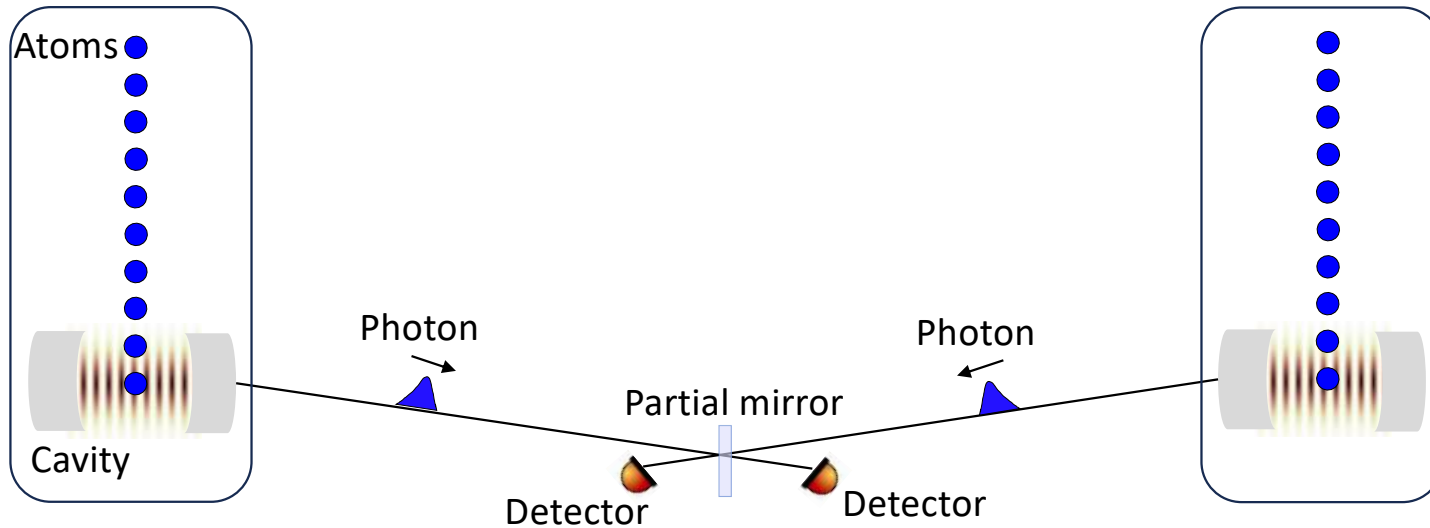
See article "quantum repeater goes the distance":



Current project: entangle two distant 10-atom quantum processors



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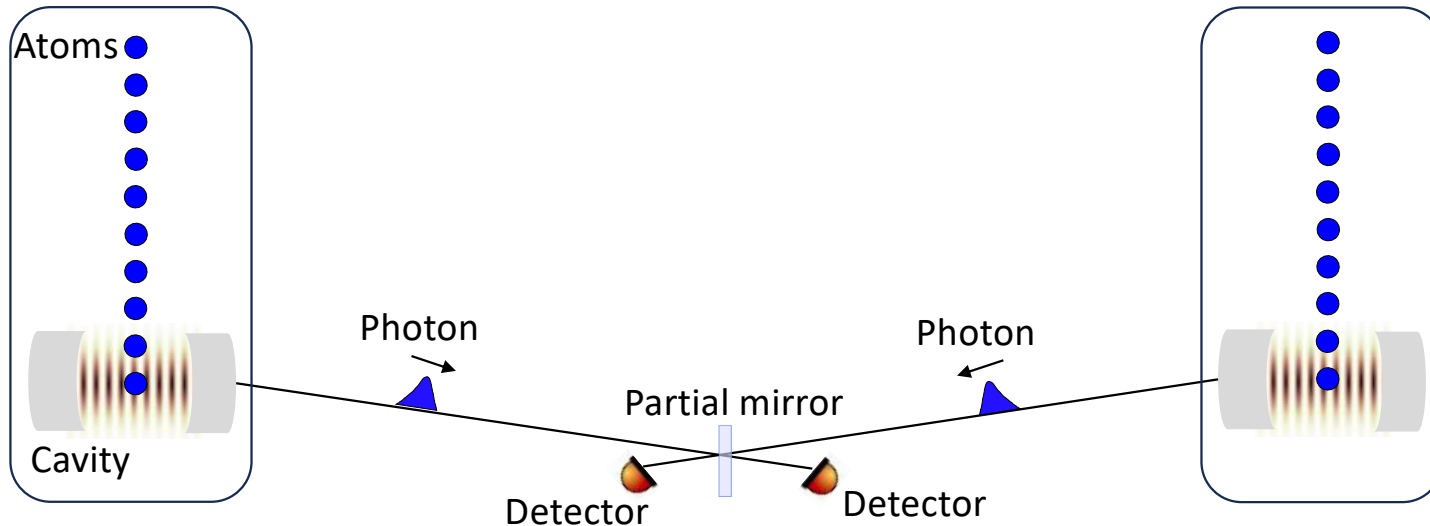


Bachelor thesis

- “Entangling atoms at a distance via photon detection”
- Focus on a recent experiment from Uni. Oxford [1]
- Study the underlying theory & experimental techniques (ion trapping, photon generation, entanglement swapping...)
- Understand current limits and future directions
- Write in English or German

[1] Stephenson *et al*, Phys. Rev. Lett. 124, 110501 (2020)

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Master thesis

- “Development of a control system for a trapped-ion quantum network”
- Setup, develop and test the principle computer control system for the project (hardware and software)
- Based on software developed by AQT and hardware from the ‘Sinara’ ecosystem.
- Use it to perform first ion trapping and tests in new system alongside PhD student

[1] Stephenson *et al*, Phys. Rev. Lett. 124, 110501 (2020)