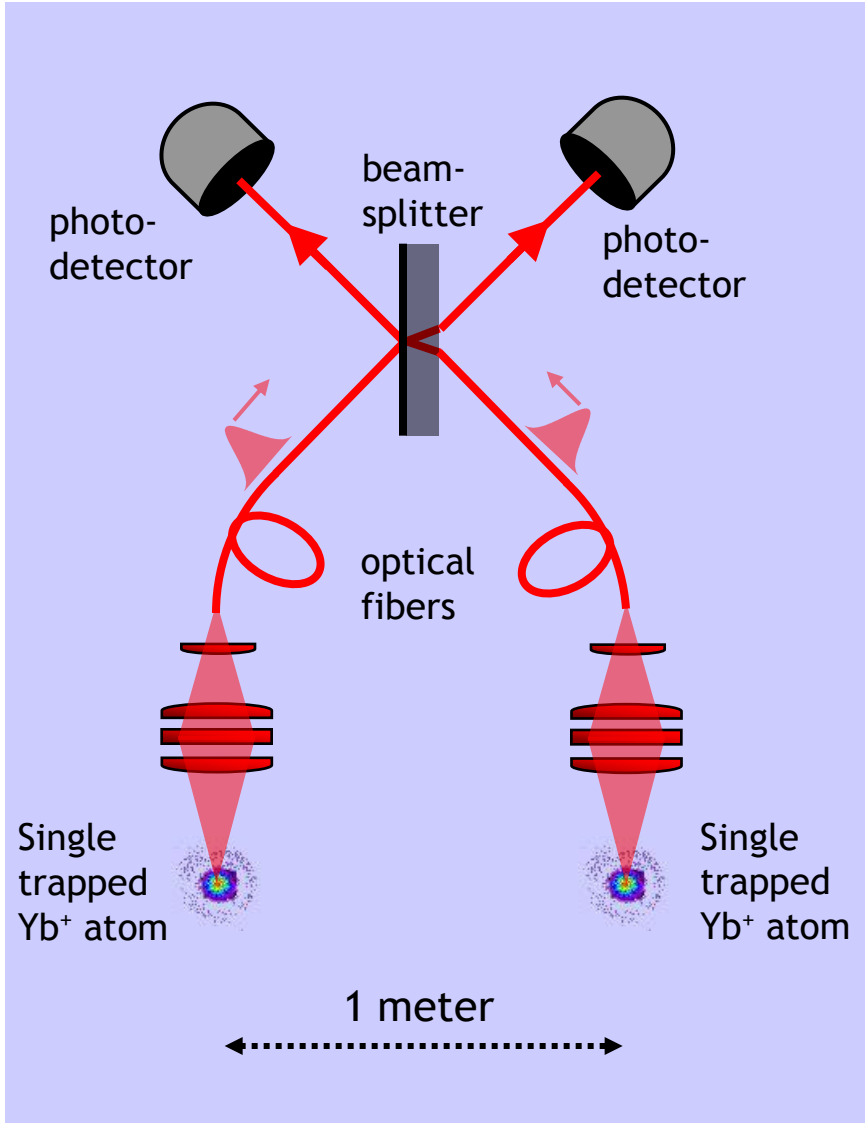


# Quantum Interference of Two Photons and Photonic Coupling of Atomic Quantum Bits

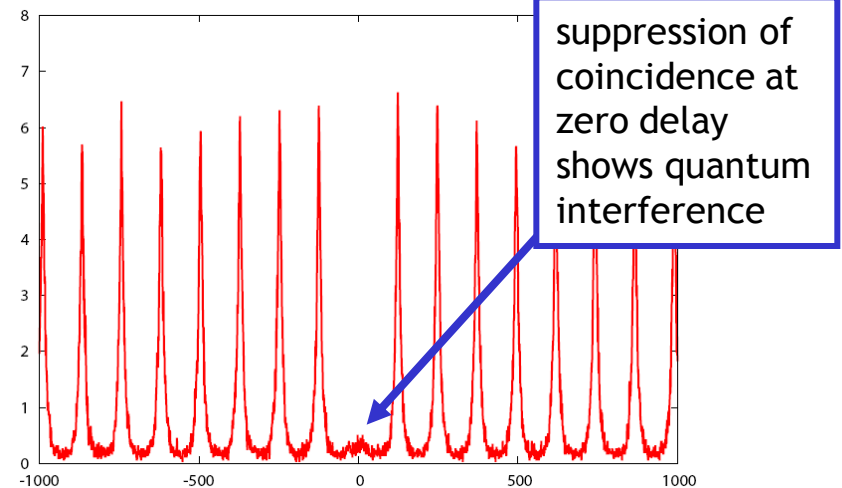
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## EXPERIMENT:

1. Ions synchronously excited with laser pulses
2. Single photons interfere on beamsplitter
3. Measure coincidence photon detection

## DATA: coincidence count rate vs. delay



## OUTLOOK:

quantum photonic interference will allow

- Remote ion-ion entanglement
- Distributed quantum computing
- Quantum repeaters