

Demonstration of the trapped-ion quantum CCD computer architecture

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- QCCD
- Requirements
- Solutions and benchmarks

Quantum Charge Coupled Device:

i.e. moving charges around

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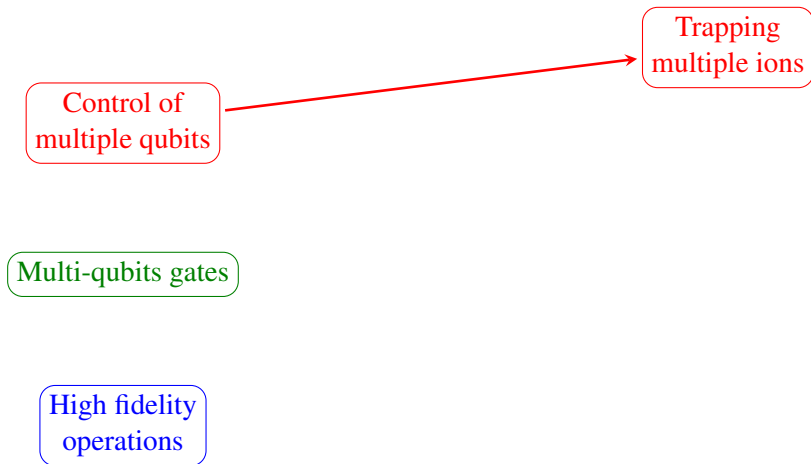
Scalable quantum computing platform

Control of
multiple qubits

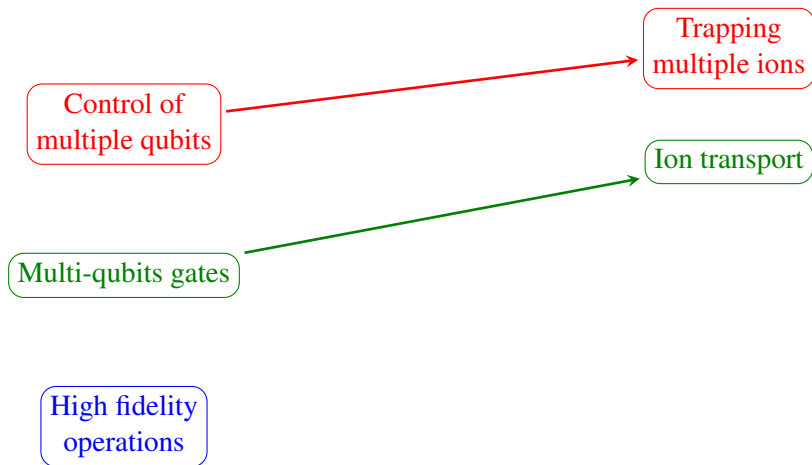
Multi-qubits gates

High fidelity
operations

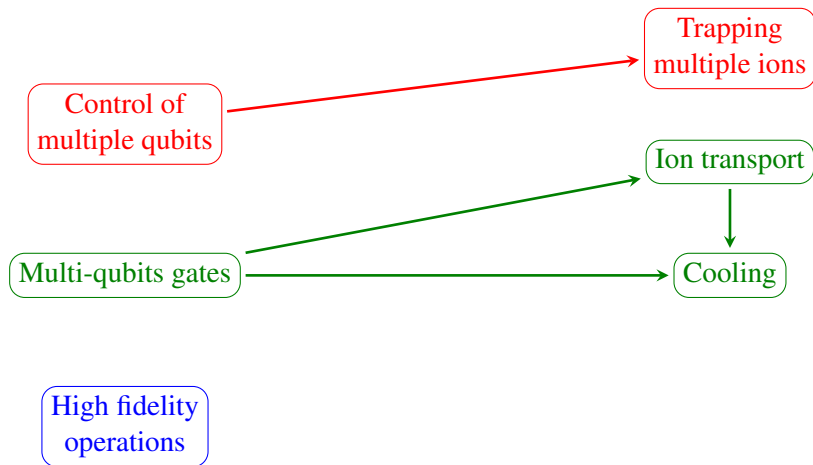
Scalable quantum computing platform



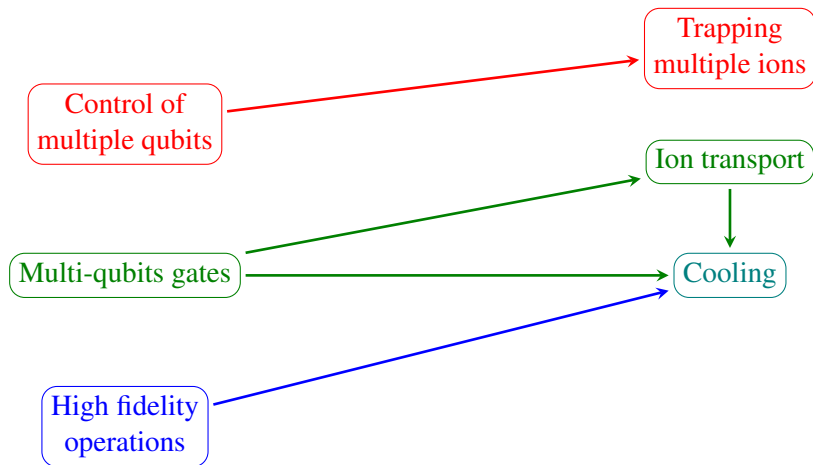
Scalable quantum computing platform



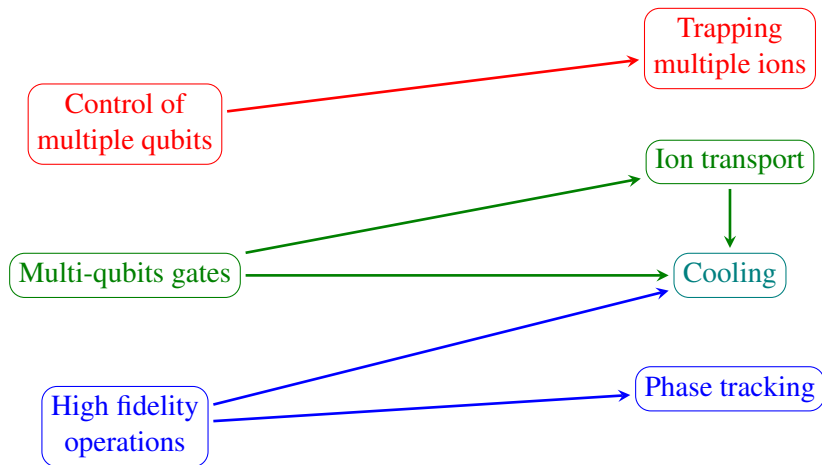
Scalable quantum computing platform



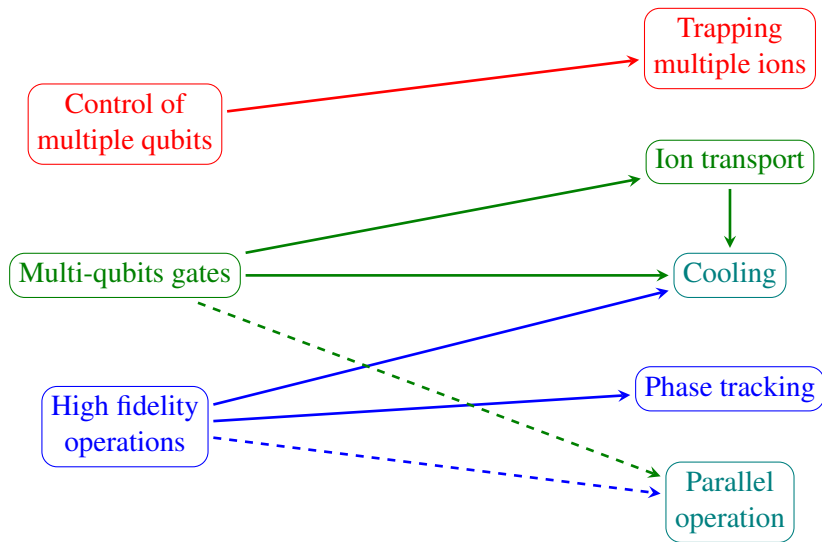
Scalable quantum computing platform



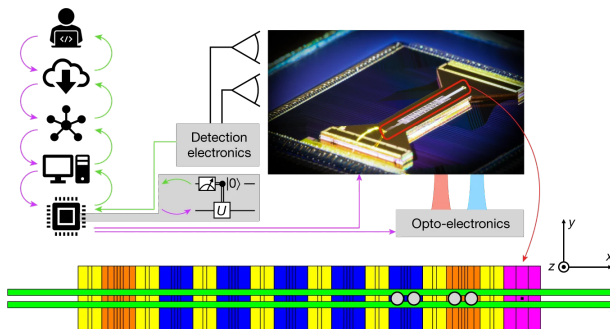
Scalable quantum computing platform



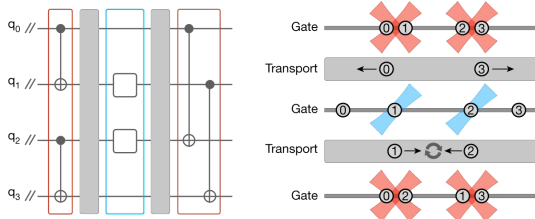
Scalable quantum computing platform



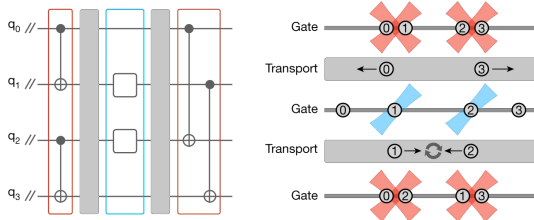
Device



Gate operation and transport

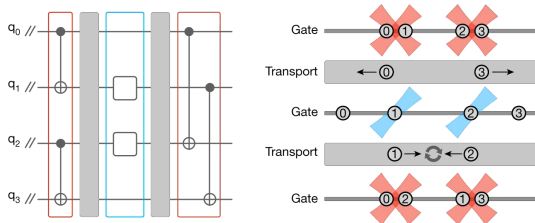


Gate operation and transport



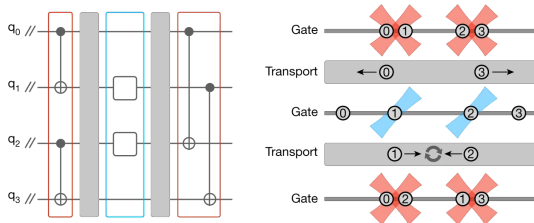
- Swapping
- Cooling with $^{138}\text{Ba}^+$
- Low crosstalk

Gate operation and transport



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Gate operation and transport



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Quantum Volume

