

Measurement-based quantum computing and associated problems

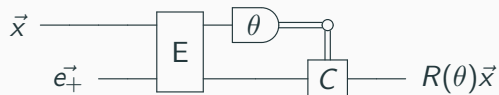
Robert I. Booth

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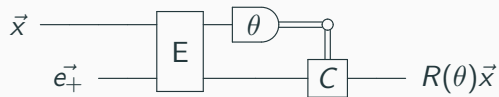
The gate teleportation protocol

input: $\vec{x} \in \mathbb{C}^2$



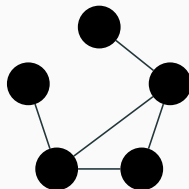
- deterministic after correction
- corrections need only come from a restricted set of transformations
- programmable transformation using only the choice of measurement

A graph-theoretic representation



graph states:

- vertices: quantum systems (qubits)
- edges: entanglement



Why care about MBQC?

MBQC and related approaches have been useful for:

- parallelising quantum logic circuits
- bounding classical simulatability
- formulating some algorithms
- ...and more!