

Quantum Physics

Oracular Approximation of Quantum Multiplexors and Diagonal Unitary Matrices

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We give a new quantum circuit approximation of quantum multiplexors based on the idea of complexity theory oracles. As an added bonus, our multiplexor approximation immediately gives a quantum circuit approximation of diagonal unitary matrices.

Comments: V1:5 pages (files: 3 .sty, 1 .tex);V2:corrected serious error, V1 omitted transformation that reverts ancilla to initial state

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