NISQ optimization for CNOT and CNOT + T circuits

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Performance on Randomly Generated Circuit
Using Randomly Generated Qubit Connectivity Graphs of Varying Sparseness

% Decrease in CNOT Count of Output Circuit Compared to Naive Optimization Method

Sparseness of Qubit Connectivity
Performance Using Connectivity of Google's 72 Qubit Bristlecone on Randomly Generated Input Circuits of Varying Size

% Decrease in CNOT Count of Output Circuit Compared to Naive Optimization Method

Number of CNOT Gates in Input Circuit
Performance Using Connectivity of IBM’s 20 Qubit Computer on Randomly Generated Input Circuits of Varying Size

% Decrease in CNOT Count of Output Circuit Compared to Naïve Optimization Method

Number of CNOT Gates in Input Circuit
Performance on Randomly Generated CNOT+T Circuit
Using Randomly Generated Qubit Connectivity of Varying Sparseness

% Decrease in Gate Count of Output Circuit
Compared to Naive Optimization Method

Sparseness of Qubit Connectivity
Performance Using Connectivity of Google's 72 Qubit Bristlecone on Randomly Generated Input CNOT + T Circuits of Varying Size

% Decrease in Gate Count of Output Circuit Compared to Naïve Optimization Method vs. Number of Gates in Input Circuit
Performance Using Connectivity of IBM's 20 Qubit Computer on Randomly Generated Input CNOT + T Circuits of Varying Size

% Decrease in Gate Count of Output Circuit Computed to Naive Optimization Method

Number of Gates in Input Circuit
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