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Distributing circuits over heterogeneous, modular quantum computing network architectures

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We consider a heterogeneous network of quantum computing modules, sparsely connected via Bell states. Operations across these connections constitute a computational bottleneck and they are likely to add more noise to the computation than operations performed within a module. We introduce several techniques for transforming a given quantum circuit into one implementable on a network of the aforementioned type, minimising the number of Bell states required to do so.

We extend previous works on circuit distribution over fully connected networks to the case of heterogeneous net

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