

Abstract Submitted
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Logical Error Rate in the Pauli Twirling Approximation AMARA KATABARWA, MICHAEL GELLER, Univ of Georgia — Understanding how decoherence and intrinsic errors affect information processing is an important task in quantum computing. The Gottesman-Knill Theorem offers a class of error models that are efficiently simulable on a classical computer. The simplest of these error models, Pauli Twirling Approximation (PTA), which is got by twirling a completely positive channel over the Pauli basis is widely applied; but how accurate is this? In this work we use the 5 qubit code to answer this question.

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