

Abstract Submitted
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Error Threshold for the 4.6.12 Topological Color Code COLIN TROUT, Georgia Inst of Tech, SHOTA NAGAYAMA COLLABORATION¹ — Topological color codes are interesting candidates for fault-tolerant quantum computation. Relative to surface codes, color codes have a larger set of transversal gates, which reduces the resources required for state distillation to achieve universal quantum computation. Here we study a family of color codes defined by the 4.6.12 semi-regular lattice. We adapt a minimum weight perfect matching decoder to report an error threshold for the 4.6.12 topological color code under the circuit-based error model.

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