
Color code quantum computation with Majorana bound states

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Abstract

We establish color codes as providing a natural setting in which advantages offered by topological hardware can be combined with those arising from topological error-correcting software for full-fledged fault-tolerant quantum computing. Most importantly, color codes have a set of transversal gates which coincides with the set of topologically protected gates in Majorana-based systems, namely the Clifford gates. We illustrate our scheme by providing a complete description of a possible architecture based on topological superconductor networks.

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