

Coupled Wire Model of Symmetric Majorana Surfaces of Topological Superconductors

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Time reversal symmetric topological superconductors in three spatial dimensions carry gapless surface Majorana fermions. They are robust against any time reversal symmetric single-body perturbation weaker than the bulk energy gap. We mimic the massless surface Majorana's by coupled wire models in two spatial dimensions. We introduce explicit many-body interwire interactions that preserve time reversal symmetry and give energy gaps to all low energy degrees of freedom. We show the gapped models generically carry non-trivial topological order and support anyonic excitations.