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Title: Topological Properties of time-reversal symmetric superconductors

We consider the analogy between fully gapped time-reversal symmetric superconductors and topological insulators. The most interesting application is to the case of non-centrosymmetric superconductors, where, due to the absence of inversion centers, singlet and triplet order parameters are always mixed. We show that these superconductors fall into distinct topological classes according to whether the singlet or the triplet component of the order parameter is larger. These two classes of superconductors exhibit qualitatively different bound states near vortex cores and at sample surfaces. Spin currents at surfaces, analogy with quantum spin Hall insulators, would also be discussed.

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