

Superconductivity and Vortices in Topological Insulator Nanoribbons

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Interfacing topological insulators with superconductivity provides a possible route towards an analog of Majorana fermions in condensed matter.

We have carried out two key steps in the search for these exotic quantum excitations. We demonstrated proximity-induced superconductivity in topological insulator (Bi_2Se_3) nanoribbons interfaced with superconducting electrodes. We also provided tantalizing evidence for the possible presence of vortices in the topological insulator.

