

Abstract Submitted
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Point contact spectroscopy on materials with high spin-orbit coupling GOUTAM SHEET, Indian Institute of Science Education and Research — We will discuss the results of our point-contact spectroscopy experiments on a number of systems with high spin-orbit coupling, including topological insulators and Dirac semimetals. Such materials sometimes give rise to exotic phases of matter like unconventional superconductivity under normal metallic point contacts. On the other hand, the special spin properties of the surface of such materials can be probed using point contacts with superconducting tips. The role of special symmetry-protected properties of the surface states of such systems on Andreev reflection can also be probed. We will also discuss that point contact spectroscopy can be used as an extremely powerful tool for investigating topological systems.

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