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Detecting a quantum critical point in topological SN junctions[1]
YASHAR KOMIJANI, Rutgers University, IAN AFFLECK, University of British Columbia — A spin-orbit coupled quantum wire, with one end proximate to an s-wave superconductor, can become a topological superconductor, with a Majorana mode localized at each end of the superconducting region. It was recently shown that coupling one end of such a topological superconductor to two normal channels of interacting electrons leads to a novel type of frustration and a quantum critical point when both channels couple with equal strength. We propose an experimental method to access this critical point in a single quantum wire and show its resilience to disorder.

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Yashar Komijani
Rutgers University

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