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Majorana fermions and the topological Kondo effect

Majorana fermions are exotic quasiparticles predicted to emerge in certain superconducting devices and to exhibit topological features related to fault-tolerant schemes for quantum computation. In these lectures, I shall explain some of the key principles behind the emergence and utility of Majorana fermions, and describe how they can lead to a "topological Kondo effect" that may allow one to probe their non-local quantum dynamics, a key feature behind potential Majorana based topological qubits.