Abstract Submitted
for the MAR15 Meeting of
The American Physical Society

Effect of coupling to Majorana bound states on Kondo physics in a strongly correlated quantum-dot device[1] TATHAGATA CHOWDHURY, KEVIN INGERSENT, Univ of Florida - Gainesville — Majorana bound states are non-Abelian quasiparticle excitations proposed to exist in topological phases. We employ the numerical renormalization group to study an Anderson impurity model of a strongly interacting quantum dot connected to one end of a quasi-one-dimensional topological superconductor, as well as to one or two normal metal leads. We elucidate the changing physics under variation of (1) the tunneling strength between the quantum dot and a Majorana mode localized at one end of the superconductor, and (2) the coupling between that Majorana mode and a second one localized at the opposite end of the superconductor. We characterize the many-body ground state and low-energy excitations of the system, identify the intermediate-temperature regimes and crossover scales of the problem, and determine the temperature dependence of the linear conductance.

[1]Supported by NSF Grant DMR-1107814

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Date submitted: 14 Nov 2014 Electronic form version 1.4