

Effect of the Majorana bound state on electron transport through the T-shape quantum dot

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We study the electronic transport through the quantum impurity (dot) laterally coupled to the external reservoirs and additionally side-coupled to the quantum wire [1], hosting at its edges the Majorana type quasiparticles. Due to hybridization between these nanoscopic objects the Majorana end-state *leaks* into the quantum dot [2], affecting its electronic spectrum and the transport properties of the device [3,4]. We discuss experimental signatures of this effect, manifested in the differential conductance [1], the thermopower [5] and the shot-noise [6]. We also provide hints for similar features appearing in the Andreev transport when one of the external reservoirs is superconducting.

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