

Abstract Submitted
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Tilting of the magnetic field in Majorana nanowires¹ STEFAN REX, ASLE SUDBØ, Department of Physics, Norwegian University of Science and Technology — Semiconductor nanowires with strong spin-orbit coupling and proximity-induced *s*-wave superconductivity in an external magnetic field have been the most promising settings for approaches towards experimental evidence of topological Majorana zero modes. We investigate the effect of tilting the magnetic field relative to the spin-orbit coupling direction in a simple continuum model and provide an analytical derivation of the critical angle, at which the topological states disappear. We also obtain the differential conductance characteristic of a junction with a normal wire for different tilting angles and propose a qualitative change of the dependence of the zero-energy differential conductance on the tunnel barrier strength at the critical angle as a criterion for establishing the topological nature of the observed signal.

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