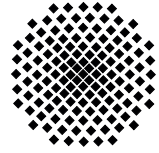


Stuttgarter Physikalisches Kolloquium

Max-Planck-Institut für Festkörperforschung
Max-Planck-Institut für Intelligente Systeme
Fachbereich Physik, Universität Stuttgart

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Dienstag, 22. Mai 2012

17.15 Uhr

Hörsaal 2 D5

Stuttgarter Max-Planck-Institute, Heisenbergstraße 1, 70569 Stuttgart-Büsnau

Majorana Fermions in Semiconducting Nanowires

Leo Kouwenhoven

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Abstract

Majorana fermions can arise as emergent particles in specially designed nanoscale conductors. We have combined superconductors and semiconducting nanowires with strong spin-orbit interaction. At finite magnetic field we find peaks in the density-of-states at zero-bias. The properties of this zero-bias peak compare well with the predictions for Majorana bound states. Background information of this work including a recent publication can be found at kouwenhovenlab.tudelft.nl



Majoranas are thought to solve all quantum computer problems.