Search for Additional Signatures of Majorana Fermions in Semiconductor Nanowires Coupled to Superconductors

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The talk will focus on tunneling experiments and the analysis of zero-bias peaks, induced gaps and methods of the preparation of clean transparent contacts between superconductors and semiconductors. We have reproduced results obtained in the same experiments in Delft 3 years ago. Improved device quality now allows us to map out the phase diagram of the topological state in the space of Zeeman energy and chemical potential, investigate the apparent closing and re-opening of the superconducting gap and study the splitting of conductance peaks near zero bias.