



Contribution ID: 290

Type: **Talk**

【162】 Capacitive Coupling between an on-chip resonator and a semiconductor nanowire

Friday, September 3, 2021 11:30 AM (15 minutes)

In low-dimensional semiconducting nanostructures, strong confinement leads to quantization of charges allowing to investigate and control their individual physical properties. Particularly, one-dimensional semiconducting nanowires have attracted a lot of attention as hosts of spin-qubits or, in combination with superconducting leads, as hosts of Andreev levels and Majorana bound states. Here, we present a novel approach to investigate semiconducting nanowires, where we couple capacitively to a superconducting on-chip resonator. We report results on our most recent experiments where we have individually coupled a high-impedance, magnetic-field resilient NbTiN resonators to both a Ge/Si core/shell nanowire, and an InAs nanowire with superconducting leads.

Primary author: Mr UNGERER, Jann Hinnerk (Swiss Nanoscience Institute and University of Basel)

Co-authors: CHEUNG, Luk Yi (University of Basel); RIDDERBOS, Joost (University of Basel); Mr CHEVALIER-KWON, Pierre (University of Basel); PATLATIUK, Taras (University of Basel); BRAAKMAN, Floris (Swiss Nanoscience Institute and University of Basel); ZUMBÜHL, Dominik (Swiss Nanoscience Institute and University of Basel); SCHÖNENBERGER, Christian (Swiss Nanoscience Institute and University of Basel)

Presenter: Mr UNGERER, Jann Hinnerk (Swiss Nanoscience Institute and University of Basel)

Session Classification: Condensed Matter Physics

Track Classification: Condensed Matter Physics (KOND)