

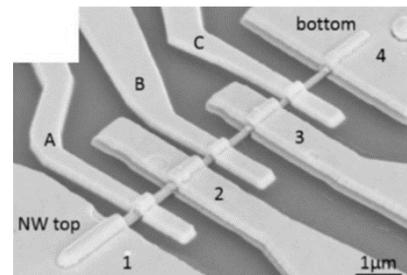
The Paul Drude Institute (PDI) performs basic research as a lively symbiosis of materials science and solid state physics. Our research aims at inspiring and demonstrating new functionalities for future information technologies. As a member of the Leibniz-Gemeinschaft and Forschungsverbund Berlin we are an independent research institute with about 100 employees and collaborate with all three universities in Berlin. We are located in the very heart of the city near the Gendarmenmarkt. You may find more details at www.pdi-berlin.de.

PhD (m/f) Project: Quantum Transport in Nanowires

Nanoscale electronic circuits provide a platform for studying fundamental aspects of future quantum technologies. We offer a PhD thesis about quantum transport experiments on semiconductor nanowires. The experimental work involves nanofabrication including electron beam lithography in our modern cleanroom facilities and transport spectroscopy of the fabricated devices at cryogenic temperatures. The aim is to realize high-quality, nanowire-based quantum devices and to study their fundamental interactions, e.g. electronic many-body correlations. The project is embedded in the nanoelectronics team of the PDI and supported by our technical staff. This thesis will be part of a collaborative research team with partners at the TU Munich, Germany, and the Institute for Solid State Physics in Chernogolovka, Russia. The Munich team will grow and optimize a variety of high-quality nanowires, while the Chernogolovka team will complement our own measurements, for instance performing noise spectroscopy. A close cooperation between students of all three teams is expected.

Are you enthusiastic to work on your individual project embedded in a professional team and to perform challenging experiments in a complex laboratory environment? Are you eager to learn state-of-the-art nanolithography and quantum transport measurements at ultra-low temperatures or have already related experience? Do you have a solid background in basic quantum mechanics and condensed matter physics? Then you will enjoy working in our growing team and should apply for a personal interview.

Scanning electron microscope image of a high-mobility GaAs/(Al,Ga)As core-shell nanowire using four ohmic AuGe/Ni/Ti/Au contacts (1-4) with three Ω -shaped Ti/Au field effect gates for resistance control (A, B, C).



*The position is temporary and requires a master in physics or a related area. Payment is according to TVöD Bund (Treaty for German public service). PDI is an equal opportunity employer. Among equally qualified applicants, preference will be given to disabled candidates. Please submit your application until **20.02.2018** including a specific motivation letter, your CV, grades and referees via email to*

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