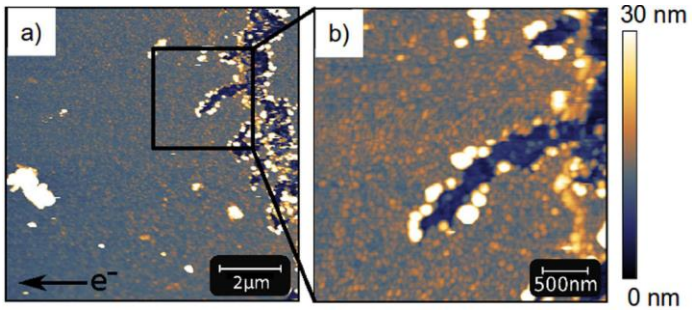
Universität Potsdam
Potsdam Transfer
Transferservice

Transfer Offer
20-06

Electromigration for making small metallic contacts

Description



The research team of Prof. Dr. Regina Hoffmann-Vogel, Professor of Experimental Physics of Condensed Matter at the University of Potsdam, aims to understand the relationship between atomic and mesocopic structures as well as electronic transport in nanostructures. The technique of electromigration is used to create nanometer distance metallic contacts, from which the group seeks to understand these nanostructures as well as further refine the manufacturing processes. To date, the group has successfully collaborated with several academic and industrial partners throughout Europe.

Details

- Production is undertaken without the use of organic chemicals.
- Active research:
  - Structure of metallic contacts:
    - Cu on oxidized Si
    - Pb on pre-cleaned Si
    - Metallic contacts to molecules on insulating surfaces
  - Manufacturing process refinement:
    - The use of superconductivity to improve understanding of the metallic contacts
    - Investigation of contacts with scanning force microscopy

Infrastrukture

- Equipment:
  - Electron beam lithography
  - Scanning force microscopy
- Software:
  - Controlled electromigration software for fabricating nanometer-sized metallic contacts

Applications

- Semiconductor Materials
- Metallic nanostructures
- Nanometre-scale devices
- Electrical devices
- Integrated circuits
- Molecular electronics

Keywords

- Electromigration thinning
- Wetting layer
- One-dimensional systems
- Semiconductors
- Thin film nanostructures
- Nanocontacts
- Superconducting metals

Interest in cooperation

- Research Collaboration
- Contract research

Scientific literature

- https://www.uni-potsdam.de/en/epkm/veroeffentlichungen/overview

Contact
Transfer Service
Tel: +49(0)331 / 977 61 71
Fax: +49(0)331 / 977 38 70
tech@potsdam-transfer.de

Potsdam Transfer
Zentrum für Gründung, Innovation, Wissens- und Technologietransfer
Karl-Liebknecht-Straße 24–25, Haus 29
14476 Potsdam
www.potsdam-transfer.de

Aug 2020