

Semiconductor Nanostructure Systems and Devices:

I. Transport Phenomena in Semiconductor Nanowire-based Devices.

- Design and fabrication of nanoelectronic devices based on individual semiconductor nanowire and nanowire heterostructures. (Collaboration with Prof. Lucia Sorba.)
- Transport experiments with semiconductor nanowire-based devices, also at low temperature, also in magnetic field.

Main topics of investigation include, but are not limited to:

- 1) Quantum effects in novel nanowire heterostructures, e.g. core-multishell nanowires or combined radial-axial heterostructures.
- 2) Thermal and/or thermoelectric transport at the nanoscale.
- 3) Single-electron devices.

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