Charge transport and devices simulation

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Teaching staff
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Reception hours: Friday 11:00-13:00

Program of the course:

Introduction to the quantum and semiclassical charge transport: Ohm law - From semiclassical/continuum to quantum/atomistic formalisms - Contact resistance concept - Landauer formula - bottom-up: one level device.


Bibliography:

S.M. Sze. K. K. Ng “Physics of Semiconductor Devices John Wiley & Sons, Inc.”

K. Tomizawa “Numerical Simulation of Submicron Semiconductor devices” Artech House Inc. Norwood

S. Datta “Quantum Transport: Atom to Transistor” Cambridge University Press

S. Datta “Electronic Transport in Mesoscopic Systems” Cambridge University Press

Additional scientific papers and course slides will be provided by the teacher