

4th International Summer School
Physics of Functional Micro- and Nanostructures
13–25 September 2010, Hamburg, Germany

Public Talks (Hörsaal AP)

Monday, 13 September 2010

Course 1: Low-dimensional electron systems in semiconductors/Lecture 1

9.15-10.00 Novel semiconductor devices

Ulrich Merkt

Course 1: Low-dimensional electron systems in semiconductors/Lecture 2

10.15-11.00 Landau quantization and quantum Hall effect

Katrin Buth

Course 2: Fabrication methods/Lecture 1

11.15-12.00 Semiconductor heterostructures

Wolfgang Hansen

Tuesday, 14 September 2010

Course 1: Low-dimensional electron systems in semiconductors/Lecture 3

9.00-9.45 Electron-electron interaction

Daniela Pfannkuche

Course 2: Fabrication methods/Lecture 2

10.00-10.45 Molecular beam epitaxy of semiconductor nanostructures

Christian Heyn

Course 2: Fabrication methods/Lecture 3

11.00-11.45 Atomic layer deposition

Kornelius Nielsch

Wednesday, 15 September 2010

Course 1: Low-dimensional electron systems in semiconductors/Lecture 4

9.00-9.45 Electron transport

Daniela Pfannkuche

Course 3: Ferromagnetic domains/Lecture 1

10.00-10.45 Micromagnetism

Guido Meier

Course 5: Scanning-probe methods/Lecture 1

11.00-11.45 Scanning tunneling microscopy and spectroscopy

Jens Wiebe

Thursday, 16 September 2010

Course 3: Ferromagnetic domains/Lecture 1

9.00-9.45 Dynamics of domain walls and vortices

Guido Meier

Course 5: Scanning-probe methods/Lecture 2

10.00-10.45 Scanning force microscopy and spectroscopy

Roland Wiesendanger

Course 6: Simulation of micro- and nanostructures/Lecture 1

11.00-11.45 Mathematical modeling with finite elements

Michael Hinze

Friday, 17 September 2010

Course 5: Scanning-probe methods/Lecture 3

9.00-9.45 Recent research highlights based on scanning-probe methods

Jens Wiebe

Course 6: Simulation of micro- and nanostructures/Lecture 2

10.00-10.45 Optimization and control with finite element models

Michael Hinze

Monday, 20 September 2010

Course 4: Metamaterials/Lecture 1

9.00-9.45 Negative refraction and hyperlenses

Stefan Mendach

Course 4: Metamaterials/Lecture 2

9.45-10.30 Surface plasmons

Stefan Mendach

Tuesday, 21 September 2010

Seminar 1/Talk 1

9.00-9.45 Active plasmonics and metamaterials

Harry Atwater

Seminar 1/Talk 2

9.45-10.30 Plasmonics and metamaterials for solar energy conversion

Harry Atwater

Wednesday, 22 September 2010

Course 6: Simulation of micro- and nanostructures/Lecture 3

9.00-9.45 Basic models and numerical techniques

Dietmar Möller

Thursday, 23 September 2010

Seminar 2/Talk 1

9.00-9.45 From bulk magnets to nano-devices: Magnets and their application

Thomas Schrefl

Seminar 3/Talk 1

10.00-10.45 Material design for spintronic applications

Benjamin Balke

Friday, 24 September 2010

Seminar 2/Talk 2

9.00-9.45 Simulation techniques for functional and structural magnetic materials

Thomas Schrefl

Seminar 3/Talk 2

10.00-10.45 Material design for thermoelectric applications

Benjamin Balke