

Curriculum Vitae

Michal Grochol, Ph.D.

Munich, Germany
mgrochol@msu.edu

Education

2007: Ph.D. in Theoretical Physics, Humboldt University, Berlin, Germany

2003: Master's Degree with distinction in Physics, Charles University, Prague, Czech Republic

1998: University entrance diploma (Maturita), Gymnázium, Ostrava, Czech Republic

Research Interest and Activity

Condensed Matter Theory, Quantum Optics, Quantum Information, Quantum transport, Quantum phase transitions, Bose-Einstein condensation, THz-Emission from semiconductor superlattices

14 publications in international journals and conference proceedings (2005-2009), 60 citations (ISI-Thomson), h-factor: 5

Appointments

03.2010 – 11.2010: Chercheur (post-doctorant), Centre National de la Recherche Scientifique and Laboratoire Pierre Aigrain, Ecole Normale Supérieure, Paris, France

04.2009 – 02.2010: Wissenschaftlicher Mitarbeiter, Institut fuer theoretische Physik, Friedrich-Alexander-Universitaet, Erlangen, Germany

05.2007 – 03.2009: Research Associate, Department of Physics and Astronomy, Michigan State University, East Lansing, MI, USA

Awards and Fellowship

Fellowship of the German Science Foundation for the members of the Graduate school at the Humboldt University, 2004-2007

Scholarship of the city of Ostrava for excellent students, 2005

Scholarship of the Faculty of Mathematics and Physics of the Charles University for outstanding students awarded for the 2nd, 3rd and 4th year, 2000-2003

Professional Activity

Referee of the Physical Review journals

Teaching Activity

Teaching Assistant in Electrodynamics, WS 2009 / 2010

Teaching Assistant in Transport in Nanosystems, SS 2009

Teaching Assistant in Introduction to the Solid State Theory, two semesters, SS 2005 and WS 2005 / 2006 (all in German)

Other Activities

Development of the graphic interface of a program that analyses experimental data

Creation of web pages (both for the Institute of Physics, Charles University)

Management of the group linux network and linux cluster during the Ph.D. studies

Computer Skills

Languages (Turbo Pascal, FORTRAN 77, C and C++, Shell script), Programs (Matlab, Maple, LATEX), Operation systems (Linux, Windows [advanced user])

Language Skills

Czech (mother language), English (fluently written and spoken), German (fluently written and spoken), French (intermediate), Spanish (intermediate), , Russian (basics), Polish (very good passive understanding),

Invited Seminars

12/15/09, AMOP Group seminar, University of Cambridge: *Excitons and photons in cavity-embedded quantum dot lattices*

07/03/09, INN seminar, IFW Dresden: *Excitons and photons in cavity-embedded quantum dot lattices*

09/17/08, Condensed matter theory seminar, Ohio University: *Excitons in nanostructures with perpendicular magnetic field*

11/07/06, WSI seminar, Technical University of Munich, *Excitons in nanostructures with perpendicular magnetic field*

List of Publications

Michal Grochol

Publications in peer reviewed journals

M. Grochol
Quantum phase transitions in an array of coupled nanocavity quantum dots
Phys. Rev. B **79**, 205306 (2009).

M. Grochol and C. Piermarocchi
Multispin errors in the optical control of a spin quantum lattice
Phys. Rev. B **78**, 165324 (2008).

M. Grochol and C. Piermarocchi
Microcavity polaritons in disordered exciton lattices
Phys. Rev. B **78**, 035323 (2008).

E.M. Kessler, M. Grochol, and C. Piermarocchi
Light-mass Bragg cavity polaritons in planar quantum dot lattices
Phys. Rev. B **77**, 085306 (2008).

M. Grochol and R. Zimmermann
Noncircular semiconductor nanorings of types I and II: Emission kinetics in the excitonic Aharonov-Bohm effect
Phys. Rev. B **76**, 195326 (2007).

C. Ropers, M. Wenderoth, L. Winking, T. C. G. Reusch, M. Erdmann, R. G. Ulbrich, M. Grochol, F. Grosse, R. Zimmermann, S. Malzer and G. H. Döhler
Atomic Scale Structure and Optical Emission of AlGaAs/GaAs Quantum Wells
Phys. Rev. B **75**, 115317 (2007).

M. Grochol, F. Grosse, and R. Zimmermann
Exciton Aharonov-Bohm effect and emission kinetics in nanorings
phys. stat. sol. (b) **243**, 3834-3839 (2006).

M. Grochol, F. Grosse, and R. Zimmermann
Optical exciton Aharonov-Bohm effect, persistent current, and magnetization in semiconductor nanorings of type I and II
Phys. Rev. B **74**, 115416 (2006).

M. Grochol, F. Grosse, and R. Zimmermann
Exciton wave function properties probed by diamagnetic shifts in disordered quantum wells
Phys. Rev. B **71**, 125339 (2005).

M. Grochol, F. Grosse, and R. Zimmermann
Diamagnetic shift and localization of excitons in disordered quantum wells
J. Luminescence **112**, 208-211 (2005).

Conference proceedings:

M. Grochol and C. Piermarocchi
Bragg cavity polaritons in disordered planar lattices
CLEO/QELS 2008 Proceedings, QFC **5** (2008). (San Jose, CA)

M. Grochol, F. Grosse, and R. Zimmermann
Exciton Aharonov-Bohm effect in embedded nanostructures
Physics of Semiconductors, AIP Conf. Proceedings **893**
(28th ICPS Vienna), p. 929 (2007).

M. Grochol, F. Grosse, and R. Zimmermann
Exciton diamagnetic shift in realistic quantum wells
phys. stat. sol. (c) **3**, 3492-3495 (2006), (Proc. EXCON 7, Winston-Salem).

M. Grochol, F. Grosse, and R. Zimmermann
Exciton Aharonov-Bohm effect in quantum dot rings
phys. stat. sol. (c) **3**, 2518-2521 (2006) (Proc. NOEKS 8, Muenster)