Contents

Editorial
Michael Schreiber 11

* * *

Spectral statistics of interacting electrons in chaotic quantum dots
K.-H. Ahn, K. Richter 13

* * *

Coulomb effects on the transmittance of open quantum dots in a tight-binding model
A. Aldea, A. Manolescu, V. Moldoveanu 17

* * *

Frequency dependent conductivity in the integer quantum Hall effect
A. Bäker, L. Schweitzer 21

* * *

Delocalization of excitons in disordered systems
R. Berkovits 25

* * *

Quantum Hall effect and cyclotron resonance in disordered δ-doped GaAs/AlGaAs-heterojunctions
K. Buth, M. Widmann, U. Merkt, K. Eberl 29

* * *

Phase diagram of the three-dimensional Anderson model of localization with random hopping
P. Cain, R.A. Römer, M. Schreiber 33

* * *

Delocalization transition for two interacting particles in a two-dimensional random potential
E. Cuevas, M. Ortuño 37

* * *

Localized phonon interaction and energy transport
T. Damker 41

* * *

Spin-$\frac{1}{2}$ transverse XX chain with correlated disorder: dynamics of the transverse correlations
O. Derzhko, T. Krokhmalskii 45

* * *

Thermodynamics of the $s = \frac{1}{2}$ transverse XX chain with Dzyaloshinskii-Moriya interaction in the presence of correlated Lorentzian disorder
O. Derzhko, J. Richter, V. Derzhko 49

* * *

A new criterion for single parameter scaling
L.I. Deych, A.A. Lisyansky, B.L. Altshuler 53

* * *

Anomalous electron diffusion in nanostructured gold wires
G. Dumpich, S. Friedrichowski 57

* * *

Crossover from interaction-induced localization to delocalization in disordered electron systems
F. Epperlein, T. Vojta, M. Schreiber 61

* * *

Local fields in non-linear quantum transport
A. Fechner, G. Cuniberti, M. Sassetti, B. Kramer 65

* * *

Metal-insulator transition induced by magnetic tuning in Sb doped Si
A. Fujimoto, H. Kobori, K. Fujii, T. Ohyama, S. Ishida 69

* * *

Magnetic field induced superconducter–insulator transition in InO_x films — a 3D scenario ?
V.F. Gantmakher, M.V. Golubkov, V.T. Dolgopolov, A.A. Shashkin, G.E. Tsydynzhapov 73

* * *

Optical transmission through very strong scattering media
J. Gómez Rivas, R. Sprik, A. Lagendijk 77

* * *

Coulomb drag between electron layers with correlated random potentials
I.V. Gornyi, A.G. Yashenkin, D.V. Khveshchenko 81

* * *

Quantum diffusion and finite size scaling for two-particle wave packets
O. Halfpap, B. Kramer 85

* * *

Metal-insulator transition in a two-dimensional electron gas
containing InAs self-assembled quantum dots
T. Heinzel, R.D. Jaeggi, M. v. Waldkirch, E. Ribeiro, K. Ensslin, G. Medeiros-Ribeiro, P.M. Petroff 89

* * *

Metal-insulator transition in diamond
M.J.R. Hoch, T. Tshepe, J.F. Prins 93

* * *

Temperature dependence of conductance fluctuations
in the quantum Hall regime
F. Hohls, U. Zeitler, R.J. Haug 97

* * *

Quantum transport of "magic numbers" dynamics
A. Iomin, G.M. Zaslavsky 101

* * *

Weak localization near the crossover to hopping regime
in poly-Si MOS inversion layer
S. Ishida, S. Takaoka, K. Oto, K. Murse, T. Serikawa 105

* * *

Level spacing statistics in a 2D quasicrystal
A. Jagannathan 109

* * *

Is there a symmetry between absorption and amplification
in disordered media ?
X. Jiang, Q. Li, E.N. Economou, C.M. Soukoulis 113

* * *

Quantum Hall effect in disordered superconducters
V. Kagalovsky, B. Horovitz, Y. Avishai, J.T. Chalker 117

* * *

Three-dimensional quantum percolation studied by level statistics
A. Kaneko, T. Ohtsuki 121

* * *

Strong localization in the Anderson model with self-affine
potential landscapes
J.W. Kantelhardt, S. Russ, A. Bunde, S. Havlin, I. Webman 125

* * *

Universal features of level dynamics in quasi-one-dimensional disordered rings
E. Kanzieper, V.E. Kravtsov 129

* * *

The effect of disorder on the symmetry of the superconducting gap in LaSrCuO
K. Karpińska, M.Z. Cieplak, S. Guha, B. Boyce, T.R. Lemberger, M. Berkowski, P. Lindenfeld 133

* * *

Anderson localization in a dc electric field
P. Kleinert 137

* * *

Two localization lengths in wires in a magnetic field
A.V. Kolesnikov, K.B. Efetov 141

* * *

Coherent Hall effect and coherent heavy quasi-particles in semiconductor superlattices and coupled quantum wells
Y.A. Kosevich 145

* * *

Spectral correlations in 2D disordered systems: dependence on boundaries and topology
V.E. Kravtsov, V.I. Yudson 149

* * *

Anderson localization and the mobility edge in 1D random potentials with long-range correlations
A.A. Krokhin, F.M. Izrailev 153

* * *

Current distributions in disordered systems
A. MacKinnon 157

* * *

"Single particle excitations" in two-bands Luttinger liquids
E. Mariani, M. Sassetti, B. Kramer 161

* * *

Numerical studies of Anderson transition
P. Markŏs 165

* * *

Kondo effect in s-quantum dot-s system
D. Matsumoto 169

* * *

Tunneling spectroscopy with two-dimensional electron gases
J.S. Meyer, A. Altland, M. Janssen 173

* * *

Theory of spin effect on Coulomb blockade of single-electron tunneling in ferromagnetic system
G. Michałek, J. Martinek, J. Barnaś, B.R. Bułka 177

* * *

Electron localization in chains and ladders
H. Mori 181

* * *

Rare regions and annealed disorder in quantum phase transitions
R. Narayanan, T. Vojta, D. Belitz, T.R. Kirkpatrick 185

* * *

Interaction effects in N-S junctions out of equilibrium
B.N. Narozhny, I.L. Aleiner, B.L. Altshuler 189

* * *

Universalities of weak localization
Y. Nazarov 193

* * *

Magnetic-field-induced metal–insulator transition in (In,Mn)As
A. Oiwa, A. Endo, S. Katsumoto, Y. Iye, H. Munekata 197

* * *

Phase relaxation time in polycrystalline InSb films heavily doped with Pb
M. Oszwaldowski, T. Berus, V.K. Dugaev 201

* * *

2D weak localization effects in $Nd_{2-x}Ce_xCuO_{4-\delta}$ single crystals
A.I. Ponomarev, G.I. Harus, A.N. Ignatenkov, L.D. Sabirzyanova, N.G. Shelushinina, A.A. Ivanov 205

* * *

Localization of electrons in two-dimensional spatially-correlated random magnetic fields
H. Potempa, L. Schweitzer 209

* * *

Influence of disorders caused by substitution on the vortex phase transition in $NdBa_2Cu_3O_{7-y}$ single crystals
A.K. Pradhan, S. Shibata, K. Nakao, N. Koshizuka 213

* * *

Conductivity of weakly metallic $Cd_{1-x}Mn_xTe$ and the influence of bound magnetic polarons at low temperatures
D.E. Read, C. Leighton, I. Terry, P. Becla 217

* * *

Magnetic-field induced metal-insulator transition in narrow constrictions
J. Regul, P. König, U. Zeitler, R.J. Haug, M. Lipinski, K. Eberl 221

* * *

Observation of a logarithmic temperature dependence of magneto-conductivity of barely metallic Ge doped with As at low temperatures
R. Rentzsch, A.N. Ionov, P. Fozooni, M.J. Lea 225

* * *

Level repulsion and wavefunction statistics in semiconductor quantum systems with localized excitons
E. Runge, R. Zimmermann 229

* * *

Magnetic field effects on the fluctuations of the local density of electron states in a disordered metal
A.K. Savchenko, J.P. Holder, V. I. Fal'ko, B. Jouault, G. Faini, F. Laruelle, E. Bedel 233

* * *

Metal-insulator transition in a 2-dimensional system with an easy spin axis
V. Senz, U. Dötsch, U. Gennser, T. Ihn, T. Heinzel, K. Ensslin, R. Hartmann, D. Grützmacher 237

* * *

The influence of Anderson localization on the mode decay of excited nonlinear systems
K.A. Snyder, T.R. Kirkpatrick 241

* * *

Numerical studies of localization/delocalization transition in percolating systems with segregation
A.W. Stadler, A. Kusy 245

* * *

Quantum Monte Carlo simulations of the three-dimensional Hubbard model
R. Staudt, M. Dzierzawa, A. Muramatsu 249

* * *

Kinetic parameters of thin α-tungsten films
A. Stolovits, A. Sherman, R.K. Kremer 253

* * *

Toward a nonperturbative beta-function in quantum Hall effect: RG flows compatible with law of correspondimg states
N. Taniguchi 257

* * *

Study of critical behavior of the supersymmetric spin chain that models plateau transitions in the integer quantum Hall effect
S.-W. Tsai, J.B. Marston 261

* * *

Quantum localization near bifurcations in classically chaotic systems
I. Varga, P. Pollner, B. Eckhardt 265

* * *

Transport properties near the Anderson transition
C. Villagonzalo, R.A. Römer, M. Schreiber 269

* * *

Critical exponent for localization length in neutron-transmutation-doped ^{70}Ge:Ga
M. Watanabe, K.M. Itoh, Y. Ootuka, E.E. Haller 273

* * *

Disordered systems in phase space
D. Weinman, S. Kohler, G.-L. Ingold, P. Hänggi 277

* * *

Dipolar field, spin relaxation, e-e exchange and spin gap in Si/SiGe quantum wells
Z. Wilamowski, W. Jantsch, N. Sandersfeld, F. Schäffler 281

* * *

Localized cyclotron orbits around misfit dislocations in semiconductor heterostructures
T. Wosiński, T. Figielski, A. Mąkosa, W. Dobrowolski 285

* * *

Electron transport through a quantum dot in non-equilibrium
H.Q. Xu 289

* * *

Polariton impurity band
A. Yamilov, L.I. Deych, A.A. Lisyansky 293

* * *

Ballistic weak localization in antidot arrays
O. Yevtushenko, D. Weiss, K. Richter 297