

Curriculum Vitae

Vladimir I. Falko

(in some publications, Fal'ko)

Affiliation

Physics Department
Lancaster University
Lancaster, LA1 4YB, UK

Born: 30 June 1961 in Kharkov, USSR
Citizenship: United Kingdom

Professional career

from March 1996 Professor, Personal Chair in Condensed Matter Theory, Lancaster University, Physics Department (from 1998; before that – Lecturer and EPSRC Advanced Research Fellow)

1995 - 1996 Oxford University, Department of Theoretical Physics (Research Fellow)

1991 - 1995 Max-Planck-Institut für Festkörperforschung, Stuttgart, Germany,
Theory Department in Stuttgart and HMFL in Grenoble (Research Fellow)

1985 - 1991 Institute of Solid State Physics, Ac. Sci. USSR, Chernogolovka, Russia
Department of Theoretical Physics (Junior Research Fellow)

Education

1978 – 1980 Kharkov University (Ukraine), Department of Nuclear Physics

1980 – 1985 Moscow Physical Engineering Institute (Russia), Department of Theoretical Nuclear Physics
Master Degree in Theoretical Physics (*March 1985*), Thesis '*Triplet pairing in nuclear systems*'

1987 – 1990 Institute of Solid State Physics, Ac. Sci. USSR, Chernogolovka (Russia),
Ph.D. in Solid State Physics (*Feb. 1990*), Thesis '*High frequency phenomena in disordered conductors*'.

Personal fellowships and memberships

Co-Director of Manchester-Lancaster DTC 'NOWNANO'

Senior Visiting Fellow at Princeton University (2003/2004 - sabbatical leave) and NEC America in Princeton (2007, 2008)

Member of Strategic Infrastructure Panel of the Cyprus Research Promotion Foundation, 2008/2009

Directeur de Recherche Invité, at LPS CRNS & University of Orsay, France, (May-August 2007)

Fellow of the Institute of Physics UK (elected in October 2001)

EPSRC Advanced Research Fellowship (awarded in 1996 for research in *Mesoscopy*)

Re-elected Member of EPSRC Physics College UK (1997-2005)

Associated Professor at Joseph Fourier University and HMFL-CNRS in Grenoble (January – March 1997; May-July 2002)

Alexander von Humboldt Fellowship (awarded in 1992; re-invited for research visits to Hannover University in 2007)

Chair, principal organiser and co-organiser of the following international meetings:

From Nanoscience to Femtoscience, INTProgram, University of Washington Seattle USA, 20 July – 28 August 2009 – Director
www.int.washington.edu/PROGRAMS/09-2b.html

Graphene Week 2009 ESF Conference, Obergugl Austria, 2-7 March 2009 – Chair - www.esf.org/conferences/09262

Graphene Week 2008 UNECO-ICTP Conference, Trieste Italy 25-29 August 2008 – Director - agenda.ictp.it/smr.php?ida=1960

Quantum Coherence and Controllability at the Mesoscale. Donostia International Workshop, San Sebastian, 12-23 May, 2008 – co-org.

Quantum Transport and Dynamics in Nanostructures, 4th Windsor Summer School, Windsor 06-19/08/2007 (UK) – Director
www.lancs.ac.uk/users/esqn/windsor07

Quantum Phenomena in Confined Dimensions - ICTP Conference, Trieste 4-8/06/2007 – co-Director
cdsagenda5.ictp.it/full_display.php?ida=a06199

Physics of Nano-Devices – UNESCO ICTP College, Trieste 10-21/07/2006 – co-Director - cdsagenda5.ictp.it/full_display.php?ida=a05212

Graphene Week 2006 Conference and MPI Research Workshop *Dynamics and relaxation in complex quantum and classical systems and nanostructures* - Director, Dresden 24/07/2006-07/10/2006

Strongly Interacting Systems at the Nanoscale – ICTP Conference, Trieste 5-12/08/2005 - Director

Role of Spin in Quantum Transport - Colloquium, EPS Congress on CMP, Prague 19-23/07/2004 – Chair-organiser

EC Summer School *Field Theory of Quantum Coherence, Correlations and Mesoscopy*, Windsor 9-22/08/2004 (UK) - Director
www.lancs.ac.uk/users/esqn/windsor04

IoP-CMMP-2004, Symposia on '*Semiconductor Transport*' and '*Mesoscopy*', Warwick 2004 – Chair-organiser

Nanoelectronics-2003, Int Conference, Lancaster 4-9/01/2003 - CO: www.lancs.ac.uk/users/esqn/nanoelectronics/index.htm

IoP-CMMP-2003, Symposia '*Semicond. Nanostructures*', '*Semicond. Transport*', '*Mesoscopy*', Belfast 2003 – Chair-organiser

Quantum Transport and Correlations in Mesoscopic Systems and QHE, MPI Research Workshop, Dresden 28/7-22/8/ 2003-CO

Correlation Effects in Low-Dimensional Electron Systems, IoP- INTAS Workshop, Lancaster 29 June- 2 July 2001 - PO

Field Theory of Strongly Correlated Fermions and Bosons in Low-Dimensional Disordered Systems, NATO ASI - CO
Windsor 13-26/08/2001: www.th.ph.bham.ac.uk/ivl/NATO/

Non-Perturbative Approach to Disordered Systems and Quantum Hall Effect, Workshop, Dresden 7-27/08/2000 - Director

Mesoscopy Superconductors and Hybrid Structures, COST-TMR-CCP9 Workshop, Lancaster 17-19/12/1999 - CO

Exotic States in Quantum Nanostructures, EC Summer School on Cond. Matter Theory, Windsor 16-29 Aug 1999 - CO

Topological Defects in Quantum Hall Systems and Quantum Liquids, IoP Conference, Lancaster 19/03/1999 - PO

Non-Perturbative Approach to Quantum Chaos and Localisation, MPI Research Workshop, Dresden 11/8-7/9 1996 - Director

Books co-edited/co-authored and publications for the general audience

Advances in Graphene Physics, V. Fal'ko, B. Altshuler, and I. Aleiner editors

The European Physical Journal, Special Topics, volume 148 (2007).

Book *Strongly Correlated Fermions and Bosons in Low-Dimensional Disordered Systems*

Editors: I.V. Lerner, B.L. Altshuler, V.I. Fal'ko, T. Giamarchi - Kluwer Ac. Publ. 2002, SBN 1-4020-0748-5

Quantum information on chicken wire – News and Views - V.I. Fal'ko – Nature Physics 3, 161 (2007)

Publications in refereed journals

- 110 Adsorbate-Limited Conductivity of Graphene. J.Robinson, H.Schomerus, L.Oroszlány, V.Fal'ko, Phys. Rev. Lett. 101, 196803 (2008)
- 109 Tunable graphene system with two decoupled monolayers.
H. Schmidt, T. Lüdtke, P. Barthold, E. McCann, V. I. Fal'ko, and R. J. Haug - Appl. Phys. Lett. 93 172108 (2008)
- 108 Nuclear spin pumping under resonant optical excitation in a quantum dot.
M. Makhonin, A. Tartakovskii, A. Ebbens, M. Skolnick, A. Russell, V. I. Fal'ko, M. Hopkinson - Appl. Phys. Lett. 93 073113 (2008)
- 107 Quantum kinetic equation and universal conductance fluctuations in graphene
K. Kechedzhi, O. Kashuba, V.I. Fal'ko - Phys. Rev. B 77, 193403 (2008)
- 106 Characterization of graphene through anisotropy of constant-energy maps in angle-resolved photoemission.
M. Mucha-Kruczyński, O. Tsypliyatsev, A. Grishin, E. McCann, V. Fal'ko, A. Bostwick, E. Rotenberg, Phys. Rev. B 77, 195403 (2008)
- 105 Long nuclear spin polarization decay times controlled by optical pumping in individual quantum dots.
M. Makhonin, A. Tartakovskii, A. Van'kov, I. Drouzas, T. Wright, J. Skiba-Szymanska, A. Russell, V.I. Fal'ko, M. S. Skolnick, H.-Y. Liu, M. Hopkinson - Phys. Rev. B 77, 125307 (2008)
- 104 Spin-orbit-assisted electron-phonon interaction and the magnetophonon resonance in semiconductor quantum wells.
D. S. Abergel and V.I. Fal'ko - Phys. Rev. B 77, 035317 (2008)
- 103 Canted magnetization texture in ferromagnetic tunnel junctions - I. Kuzmenko and V. Fal'ko - Phys. Rev. B 78, 184425 (2008)
- 102 Random resistor network model of minimal conductivity in graphene
V. Cheianov, V.I. Fal'ko, B.L. Altshuler, and I. Aleiner – Phys. Rev. Lett. 99, 176801 (2007)
- 101 The focusing of electron flow and a Veselago lens in graphene p-n junctions
V. Cheianov, V.I. Fal'ko, B.L. Altshuler - Science 315, 1252 (2007)**
- 100 Filling-Factor-Dependent Magnetophonon Resonance in Graphene
M. O. Goerbig, J.-N. Fuchs, K. Kechedzhi, and V.I. Fal'ko - Phys. Rev. Lett. 99, 087402 (2007)
- 99 Visibility of graphene flakes on a dielectric substrate - D. Abergel, A. Russell, V. Fal'ko – Appl. Phys. Lett. 91, 063125 (2007)
- 98 Influence of trigonal warping on interference effects in bilayer graphene
K. Kechedzhi, V. I. Fal'ko, E. McCann, and B. L. Altshuler - Phys. Rev. Lett. 98, 176806 (2007)
- 97 Nuclear spin switch in semiconductor quantum dots - A.I. Tartakovskii, T. Wright, A. Russell, V.I. Fal'ko, A.B. Van'kov, J. Skiba-Szymanska, I. Drouzas, R. Kolodka, M. Skolnick, P. Fry, A. Tahraoui, H.-Y. Liu, M. Hopkinson - Phys. Rev. Lett. 98, 026806 (2007)
- 96 Bistability of optically induced nuclear spin orientation in quantum dots
A. Russell, V.I. Fal'ko, A.I. Tartakovskii, and M.S. Skolnick - Phys. Rev. B 76, 195310 (2007)
- 95 Power dependence of the photocurrent lineshape in a semiconductor quantum dot
A. Russell and V.I. Fal'ko - Appl. Phys. Lett. 91, 193107 (2007)
- 94 Optical and magneto-optical far-infrared properties of bilayer graphene - D. Abergel and V.I. Fal'ko - Phys. Rev. B 75, 155430 (2007)
- 93 0- π transition in superconductor-ferromagnet-superconductor junctions with strongly spin-dependent scattering,
O. Kashuba, Ya. M. Blanter, and V. I. Fal'ko - Phys. Rev. B 75, 132502 (2007)
- 92 Giant magneto-thermopower and magnetoresistance in metals with embedded ferromagnetic nanoclusters
O. Tsypliyatsev, O. Kashuba, V.I. Fal'ko - Journal of Applied Physics 101, 014324 (2007)
- 91 Friedel oscillations, impurity scattering, and temperature dependence of resistivity in graphene
V. Cheianov and V.I. Fal'ko - Phys. Rev. Lett. 97, 226801 (2006)**
- 90 Unconventional quantum Hall effect and Berry's phase of 2π in bilayer graphene
K.Novoselov, E.McCann, S.Morozov, V.Fal'ko, M.Katsnelson, U.Zeitler, D.Jiang, F. Schedin, A.Geim, Nature Physics 2, 177 (2006)**
- 89 Weak-localization magnetoresistance and valley symmetry in graphene
E. McCann, K. Kechedzhi, V.I. Fal'ko, H. Suzuura, T. Ando, and B. L. Altshuler - Phys. Rev. Lett. 97, 146805 (2006)**
- 88 Thermally excited spin current and giant magneto-thermopower in metals with embedded ferromagnetic nanoclusters
O. Tsypliyatsev, O. Kashuba, and V.I. Fal'ko - Phys. Rev. B 74, 132403 (2006)
- 87 Selective transmission of Dirac electrons and ballistic magnetoresistance of n-p junctions in graphene
V. Cheianov and V.I. Fal'ko - Phys. Rev. B 74, 041403 (2006)**
- 86 Triplet pairing due to spin-orbit-assisted electron-phonon coupling - V.I. Fal'ko and B.N. Narozhny - Phys. Rev. B 74, 012501 (2006)
- 85 Detection of the electron spin resonance of two-dimensional electrons at large wave vectors
I.V. Kukushkin, J.H. Smet, D. Abergale, V.I. Fal'ko, W. Wegscheider, K. von Klitzing - Phys. Rev. Lett. 96, 126807 (2006)
- 84 Landau level degeneracy and quantum Hall effect in a graphite bilayer
E. McCann and V.I. Fal'ko – Phys. Rev. Lett. 96, 086805 (2006)**
- 83 Anisotropy of spin splitting and spin relaxation in lateral quantum dots
V.I. Fal'ko, B.L. Altshuler, O. Tsypliyatsev – Phys. Rev. Lett. 95, 076603 (2005)

- 82 Spin-orbit coupling and anisotropy of spin splitting in quantum dots
J. Konemann, R.J. Haug, D.K. Maude, V.I. Fal'ko, B. L. Altshuler - Phys. Rev. Lett 94, 226404 (2005)
- 81 Commensurability oscillations in the SAW induced acousto-electric effect in a 2DEG
J.P. Robinson, V.I. Fal'ko - Phys Rev B 71, RC 241301 (2005)
- 80 Degeneracy breaking and inter-valley scattering due to short-ranged impurities in finite single-wall carbon nanotubes
E. McCann and V.I. Fal'ko - Phys. Rev. B 71, 085415 (2005)
- 79 Quantum and classical surface acoustic wave induced magnetoresistance oscillations in a 2D electron gas
M.P. Kennett, J.P. Robinson, N.R. Cooper, V.I. Fal'ko - Phys. Rev. B 71, 195420 (2005)
- 78 Surface acoustic wave induced magnetoresistance oscillations in a 2D electron gas
J.P. Robinson, M.P. Kennett, N.R. Cooper, V.I. Fal'ko - Phys. Rev. Lett. 93, 036804 (2004)
- 77 New type of B-periodic magneto-oscillations in a two-dimensional electron system induced by microwave irradiation.
I.V. Kukushkin, M.Yu. Akimov, J. H. Smet, S.A. Mikhailov, K. von Klitzing, I.L. Aleiner, V.I. Fal'ko, Phys. Rev. Lett. 92, 236803 (2004)
- 76 Symmetry of boundary conditions of the Dirac equation for electrons in carbon nanotubes
E. McCann, Fal'ko VI - J. Phys.: Condensed Matter 16, 2371 (2004)
- 75 Spin and interaction effects in Shubnikov-de Haas oscillations and the quantum Hall effect in GaN/AlGaN heterostructures
W. Knap, V.I. Fal'ko, *et al* - J. Phys.: Condensed Matter 16, 3421 (2004)
- 74 Two-dimensional electron gas near full polarization - G. Zala, B. Narozhny, I. Aleiner, V.I. Fal'ko - Phys. Rev. B 69, 075306 (2004)
- 73 Magneto-tunneling spectrum and thermal conductance of a ballistic NS system
G. Tkachov, V.I. Fal'ko - Phys. Rev. B 69, 092503 (2004)
- 72 On the Applicability of the Ergodicity Hypothesis to Mesoscopic Fluctuations
O. Tsypliyat'ev, I.L. Aleiner, V.I. Fal'ko, I.V. Lerner - Phys. Rev. B 68, 121301 (2003)
- 71 Comment on 'Anomalous Conductance Distribution in Q1D Gold Wires: Possible Violation of the One-Parameter Scaling Hypothesis' [PRL 88, 146601 (2002)] - V.I. Fal'ko, I.V. Lerner, O. Tsypliyat'ev, I.L. Aleiner Phys. Rev. Lett. 93, 159701 (2004)
- 70 Symmetries and Correlations of Conductance Fluctuations in a Parallel Field
D.M. Zumbuhl, J.B. Miller, C.M. Marcus, V.I. Fal'ko, T. Jungwirth, J.S. Harris Jr, Phys. Rev. B 69, RC 121305 (2004)
- 69 Weak localization and conductance fluctuations in a quantum dot with parallel magnetic field and spin-orbit scattering
J.-H. Creemers, P.W. Brouwer, V.I. Fal'ko - Phys. Rev. B 68, 125329 (2003)
- 68 Magnon-assisted transport and thermopower in ferromagnet-normal metal tunnel junctions
E. McCann, Fal'ko VI - Phys. Rev. B 68, 172404 (2003)
- 67 Giant magnetothermopower of magnon-assisted transport in ferromagnetic tunnel junctions
McCann E, V.I. Fal'ko, Phys. Rev. B 66, 134424 (2002)
- 66 Magneto-thermopower and magnon-assisted transport in ferromagnetic tunnel junctions
McCann E, V.I. Fal'ko - Applied Physics Letters 81, 3609 (2002)
- 65 Geometrical commensurability oscillations in the magnetoresistance of a two-dimensional electron gas under microwave irradiation,
Kukushkin I, Smet J, Fal'ko V, von Klitzing K, Eberl K, Phys.Rev.B 66, 121306 (2002)
64. Orbital effect of in-plane magnetic field on quantum transport in chaotic lateral dots
V.I. Fal'ko and T.Jungwirth - Phys. Rev. B 65, 081306 Rapid Communication (2002)
- 63. Spin-orbit coupling effects on quantum transport in lateral semiconductor dots
I.L. Aleiner and V.I. Fal'ko Phys. Rev. Lett. 87, 256801 (2001)**
- 62 Nucleus-mediated spin-flip transitions in GaAs quantum dots, S. Erlingsson, Y. Nazarov, V. Fal'ko - Phys. Rev. B 64, 195306 (2001)**
- 61 Subgap transport in ferromagnet-superconductor junctions due to magnon-assisted Andreev reflection
G. Tkachov, E. McCann, V.I. Fal'ko - Phys. Rev. B 65, 024519 (2001)
60. Correlation-function spectroscopy of inelastic lifetime in heavily doped GaAs heterostructures
J. Konneman, T. Schmidt, P. Konig, E. McCann, V.I. Fal'ko, R. J. Haug - Phys. Rev. B 64, 155314 (2001)
- 59 Parametric correlations of local density of states fluctuations in disordered pillars, wires and films
E. McCann and V.I. Fal'ko - J. Phys.: Cond. Matt. 13, 6633 (2001).
58. Magnon-assisted Andreev reflection in a ferromagnet-superconductor junction - E.McCann, V.Fal'ko - Europhys Lett 56, 583 (2001)
- 57 Energy dependence of phase relaxation in a disordered Fermi liquid
T. Schmidt, P. Konig, E. McCann, V.I. Fal'ko, R. J. Haug - Phys. Rev. Lett. 86, 276 (2001)
- 56 Weak localization correction to the FS interface resistance - E.McCann, V.Fal'ko, A.Volkov, C.Lambert, Phys.Rev. B 62, 6015 (2000)
55. Spin-orbit coupling effect on quantum Hall ferromagnets with vanishing Zeeman energy
Fal'ko V.I., Iordanskii SV - Phys. Rev. Lett. 84, 127 (2000)
- 54 Enhanced fluctuations of the tunneling density of states near the bottom of a Landau band measured by a local spectrometer
Holder J, Savchenko A, Fal'ko V, et al - Phys. Rev. Lett. 84, 1563 (2000)
- 53 Correlations in optical phonon spectra of complex solids - Fagas G, Fal'ko VI, Lambert CJ, Gefen Y - Phys. Rev. B 61, 9851 (2000)
- 52 Effective g-factor of two-dimensional electrons in GaN/AlGaN heterojunctions - Knap W, Frayssinet E, Sadowski ML, Skierbiszewski C, Maude D, Fal'ko VI, Khan MA, Shur MS - Applied Physics Letters 75, 3156 (1999)
51. Phonon-mediated thermal conductance of mesoscopic wires with rough edges
Kambili A, Fagas G, Fal'ko VI, Lambert CJ - Phys. Rev. B 60, 15593 (1999)
- 50 Interplay between spin-relaxation and Andreev reflection in ferromagnetic wires with superconducting contacts
Fal'ko VI, Volkov AF, Lambert C - Phys. Rev. B 60, 15394 (1999)

- 49 Distribution of time constants for tunneling through a one-dimensional disordered chain
Bolton-Heaton CJ, Lambert CJ, Falko VI, Prigodin V, Epstein AJ - Phys. Rev. B 60, 10569 (1999)
- 48 Andreev reflections and magnetoresistance in ferromagnet- superconductor mesoscopic structures
Fal'ko VI, Lambert CJ, Volkov AF - JETP Lett. 69, 532 (1999)
- 47 Skyrmions in electron gas with nonlocal exchange in a strong magnetic field
Iordanskii SV, Plyasunov SG, Fal'ko VI - Journ. Exp. Theor. Phys. 88, 392 (1999)
- 46 Topological defects and goldstone excitations in domain walls between ferromagnetic quantum Hall liquids
Fal'ko VI, Iordanskii SV - Phys. Rev. Lett. 82, 402 (1999)
- 45 Levy flights in quantum transport in quasiballistic wires - Leadbeater M, Fal'ko VI, Lambert CJ - Phys. Rev. Lett. 81, 1274 (1998)
- 44 Image of local density of states fluctuations in disordered metals in the differential conductance of tunneling via a resonant impurity level - V.I. Fal'ko - Phys. Rev. B 56, 1049 (1997)
- 43 Observation of the local structure of Landau bands in disordered conductors
T. Schmidt, R. Haug, V.I. Fal'ko, K.v. Klitzing, A. Forster, H. Luth - Phys. Rev. Lett. 78, 1540 (1997)
- 42 Spectroscopy of local density of states fluctuations in a disordered conductor
T. Schmidt, R. Haug, V.I. Fal'ko, K.v. Klitzing, A. Forster, H. Luth - Europhysics Letters 36, 61 (1996)
- 41 Long-range correlations in the wave functions of chaotic systems - V.I. Fal'ko and K.B. Efetov - Phys. Rev. Lett. 77, 912 (1996)
- 40 Universal magnetoluminescence kinetics in magnetically frozen 2D electron systems
Kukushkin IV, Fal'ko VI, Haug R, von Klitzing K, Eberl K - JETP Letters 63, 133 (1996)
- 39 Magneto-optical evidence of the percolation nature of the metal-insulator transition in the 2D electron systems
I. Kukushkin, V.I. Fal'ko, R. Haug, K.v. Klitzing, K. Eberl - Phys. Rev. B 53, 13260 (1996)
- 38 Statistics of pre-localized states in disordered conductors - V.I. Fal'ko and K. Efetov - Phys. Rev. B 52, 17413 (1995)**
- 37 Multifractality: generic property of eigenstates in two-dimensional disordered metals
V.I. Fal'ko and K.B. Efetov - Europhysics Letters 32, 627 (1995)**
- 36 Conductance fluctuations due to bistable scatterers in weakly connected conductors - V.I. Fal'ko - Phys. Rev. B 51, 5227 (1995)
- 35 Mesoscopic conductance fluctuations in systems with a random magnetic field scattering
V.I. Fal'ko - Phys. Rev. B 50, 17406 (1994)
- 34 Statistics of fluctuations of wave functions of chaotic electrons in a quantum dot in an arbitrary magnetic field
V.I. Fal'ko and K.B. Efetov - Phys. Rev. B 50, 11267 (1994)**
- 33 Electrostatics of inter-Landau-level diodes - A. Khaetski, V. Fal'ko, G. Bauer - Phys. Rev. B 50, 4571 (1994)
- 32 Evidence of the triangular lattice of crystallized electrons from time resolved luminescence
I.V. Kukushkin, V.I. Fal'ko, R.J. Haug, K. v. Klitzing, K. Eberl, K. Totemeyer - Phys. Rev. Lett. 72, 3594 (1994)
- 31 Optical branch of magneto-phonons in a double-layer Wigner crystal, V Fal'ko - Phys. Rev. B 49, 7774 (1994)
- 30 Recombination kinetics of acceptor-bound holes in heterostructures: A probe of the local configuration of magnetically frozen electron insulators - V.I. Fal'ko - Phys. Rev. B 49, RC 2242 (1994)
- 29 Crossing of cyclotron and spin resonances in two-dimensional Coulomb gas - V.I. Fal'ko - Phys. Rev. Lett. 71, 141 (1993)
- 28 Intersubband relaxation of two-dimensional electrons in heterostructures - V.I. Fal'ko - Phys. Rev. B 47, 13585 (1993)
- 27 Acoustoelectric drag effect in the two-dimensional electron gas at strong magnetic field
V.I. Fal'ko, S.V. Meshkov, S.V. Iordanskii - Phys. Rev. B 47, 9910 (1993)
- 26 Phonon-emission-accompanied photoluminescence from two-dimensional electron system at high magnetic field
V.I. Fal'ko - Phys. Rev. B 47, 3802 (1993)
- 25 The fine structure of cyclotron and spin resonances at their crossing: interplay between spin-orbit and Coulomb interactions
V.I. Fal'ko - Journ. Phys. Cond. Matter 5, 8725 (1993)
- 24 Inter-Landau-level relaxation in two-dimensional electron gases at high magnetic fields
V.I. Fal'ko and L.J. Challis - Journ. Phys. Cond. Matter 5, 3945 (1993)
- 23 Electron-phonon drag effect at two-dimensional Landau levels - V.I. Fal'ko, S. Iordanskii - Journ. Phys. Cond. Matter 4, 9201 (1992)
- 22 Cyclotron and electric dipole spin resonances in a two-dimensional electron gas in the vicinity of the crossing of spin-split Landau levels - V.I. Fal'ko - Phys. Rev. B 46, 4320 Rapid Communication (1992)
- 21 Magnetic flux tube in a quantum conductor - A. Geim, V.I. Fal'ko, S. Dubonos, I. Grigorieva - Solid State Commun. 82, 831 (1992)
- 20 The Aharonov-Bohm effect in a mesoscopic ring of diluted magnetic alloy - V.I. Falko - Journ. Phys. Cond. Matter 4, 3943 (1992)
- 19 Tunneling spectroscopy of energy levels in wide quantum wells in tilted magnetic fields
C. Kutter, V. Chitta, J.C. Maan, V.I. Fal'ko, M. Leadbeater, M. Henini, and L. Eaves - Phys. Rev. B 45, 8749 (1992)
- 18 Effect of impurity spin dynamics on weak localization - V.I. Fal'ko - JETP Lett. 53, 342 (1991)
- 17 On the relaxation of nuclear polarization near two-dimensional electron gas
V.I. Fal'ko, S.V. Meshkov, and I. Vagner - Journ. Phys. Cond. Matter 3, 5079 Letter (1991)
- 16 Magneto-optic oscillations in the intensity of recombination in connection with intersubband relaxation of two-dimensional electrons
V.V. Kirpichev I.V. Kukushkin, V.B. Timofeev, V.I. Fal'ko, K.v. Klitzing, and K. Ploog - JETP Lett 54, 637 (1991)
- 15 Quasi-1D electrons in a quantizing oblique magnetic field
I.V. Kukushkin, V.I. Fal'ko, K.von Klitzing, D. Heitmann, and K. Ploog - JETP Lett 53, 334 (1991)
- 14 The resonant tunneling through double-barrier structures in a tilted magnetic field - V.I. Fal'ko - Solid State Comm. 78, 925 (1991)
- 13 On the resonant oscillations in the current-voltage characteristics of double-barrier heterostructures
V.I. Fal'ko and S.V. Meshkov - Semicond. Sci. Techn. 5, 196 (1991)
- 12 Magnetoresistance of a quasi-two-dimensional electron gas in a parallel field - V.I. Fal'ko - Journ. Phys. Cond. Matter 2, 3797 (1990)

- 11 Mesoscopics in metals with magnetic impurities - A.A. Bobkov, V.I. Fal'ko, and D.E. Khmel'nitskii - Sov. Phys. JETP 71, 393 (1990)
- 10 Tomography of a bistable scatterer in mesoscopic wires -V.I. Fal'ko and D.E. Khmel'nitskii - JETP Lett 51, 189 (1990)
- 9 Energy spectrum of two-dimensional electrons in inclined magnetic field
V.V. Kirpichev, I.V. Kukushkin, V.B. Timofeev, and V.I. Fal'ko - JETP Lett, 51, 436 (1990)
- 8 Rectification properties of inversion layers in the parallel magnetic field - V.Fal'ko, Fiz. Tv. Tela 31 32 (1989)
- 7 What if the film conductivity is greater than the light velocity? V.I. Fal'ko and D.E. Khmel'nitskii - Sov. Phys. JETP 68, 1150 (1989)
- 6 Nonlinear properties of mesoscopic junctions under high- frequency field irradiation - V.I. Fal'ko - Europhys. Lett. 8, 785 (1989)
- 5 Mesoscopic photogalvanic effect in microjunctions - V.I. Fal'ko, D.E. Khmel'nitskii - Sov. Phys. JETP 68, 186 (1989)
- 4 The dynamical effect of a microwave field on the weak localization
S.A. Vitkalov, G.M. Gusev, Z.D. Kvon, G.I. Leviev, and V.I. Fal'ko - Sov. Phys. JETP 67, 1080 (1988)
- 3 Effect of the microwave field on the quantum correction to the conductivity - V. Fal'ko, Sov.Phys. JETP 65, 397 (1987)
- 2 Triplet pairing in nuclei - V.I. Fal'ko and I.S. Shapiro - Sov. Phys. JETP 64, 706 (1986)
- 1 Boundary layer (on the order of the correlation length) in He³-B - V.I. Fal'ko - JETP Lett. 42, 264 (1985)

Invited talks at international conferences, workshops and national meetings since Y2K

59. *Electronic transport in disordered graphene*. DIAS Workshop Mathematical Aspects of Transport in Mesoscopic Systems, Dublin 4-6/12/2008
58. *Quantum transport in disordered graphene*. CIFAR Workshop 'Nanoelectronics 2008' 13-16 Nov 2008, Halifax, Canada
57. *Unusual electronic properties of graphene and graphene-based devices*. Int Workshop Complex Nanosystems: Assembly, Control and Functionality, Venice International University, 29 September - 3 October 2008.
56. *Quantum transport in disordered graphene*. 2nd INSTANS Conference on Exact Results in Low-Dimensional Quantum Systems, Galileo Galilei Institute for Theoretical Physics, Arcetri, Florence, September 8-12, 2008.
55. *Weak localisation in disordered graphene*. Newton Institute Programme Mathematics and Physics of Anderson Localization, Cambridge, Aug-Sept 2008
54. *Percolation and random network model for transport in strongly inhomogeneous graphene*. Int Conf Mesoscopic Thermodynamics, Prague, July 28 - August 3
53. *Focusing of current flow in graphene PN junctions*. American Physical Society Annual March Meeting, New Orleans, 10-14 March 2008
52. *Electronic properties of monolayer and b-layer graphene – review*. German Physical Society Annual Meeting Meeting, Student day lecture, Berlin Germany, 24/02/2008
51. *Nuclear spin switch in optically pumped quantum dots*. INTNAN08 MPI-PKS Dresden
50. *Focusing of the electron flow and Veselago lens in graphene PN junction*. International Winterschool on Electronic Properties of Novel Materials, Kirchberg - Austria, 108 March 2008
49. *Electronic properties of bilayer graphene*. Winter School 'Advances in Solid State Physics', Bad Gastein, Austria, 18-22 Feb 2008
48. *Analogy between PN junction in graphene and optical metamaterials with negative refraction index –* Int Conf. 'Physics of Quantum Electronics', 6-10/01/2008, Snowbird, Utah USA
47. *Nuclear spin switch in optically pumped quantum dots - Quantum Transport, Magnetic Nanodevices and Spintronics*, EUROCORES FoNE Workshop, 9-13/12/2007, Pozzuoli – Naples, Italy
46. *Theory of Optical Properties and ARPES of monolayer and bilayer graphene –* Electrons in Graphene, International Workshop, 2-3/12/2007, Orsay, France
45. *Random Resistor Network model of transport in inhomogeneous graphene. –* 3rd Int. Conf. 'Fundamental of Nanoelectronics, 9-14 September 2007, Mojacar – Spain
44. *Electronic properties of graphene: theory. –* Course of 3 lectures at the 4th Windsor Summer School on Condensed Matter Theory, 6-18 August 2007, Windsor - UK
43. *PN junctions in graphene: from minimal conductivity of inhomogeneous graphene to current focusing and Veselago lens for electrons. -* EP2DS-17, 15-20 July 2007, Genoa – Italy
42. *Electronic properties and quantum Hall effect in bilayer graphene. –* DFG-Kolloquium 'Quantum Hall Effect', 28-30/6/2007, Hannover
41. *Landau levels and quantum Hall effect in bilayer graphene -* Int Conf. 'Jours de Graphene', 22-23 May, 2007, Orsay
40. *Electronic properties and QHE in bilayer graphene –* Royal Society Discussion Meeting 'Carbon-based electronics', London 21-22/5/2007
39. *Focusing, caustics and Veselago lens in graphene PN junctions –* International workshop 'Graphene', Leiden, 2-7/02/2007
38. *Transport properties of the PN junction in graphene: selective transmission, focusing and Veselago lens –* International Workshop 'Electronic Properties of Graphene', KITP UCSB, Santa Barbara, 8-18/01/2007
37. *Electronic properties of bilayer graphene –* Annual Meeting of Condensed Matter Theory group of the IoP, Warwick, 19/12/ 2006
36. *Landau levels, inter-Landau-level transitions and QHE in bilayer graphene –* International Conference 'Interactions, Excitations and Broken Symmetries in Quantum Hall Systems', MPI-PKS Dresden, 2-6/10/2006
35. *Thermopower in magnetic tunnel junctions and metals with embedded magnetic nanoclusters. –* Dynamax Meeting, TU Delft, 12-15/09/2006
34. *Quantum transport of chiral electrons in graphene – Lectures at UNESCO ICTP College Physics of Nano-Devices', Trieste 10-21/07/2006*
33. *Pseudospintronics: Electronic properties and quantum transport in graphene and graphitic bilayers –* Workshop and Programme, Kavli Institute for Theoretical Physics UC Santa Barbara, USA – Feb-June 2006

32. *Berry phase 2π , Landau levels and quantum Hall effect in graphitic monolayers and bilayers* – Int. Conf. 'Frontiers of Condensed Matter Theory', University of Minnesota, Minneapolis, 3-7/05/2006
31. *Electronic properties of ultra-thin graphite films: monolayers and bilayers* – Student Day Lecture, Condensed Matter and Materials Physics (CMMP06), Exeter 19-21/04/2006
30. *Magnetotransport in metals embedded with ferromagnetic nanoclusters* – International Conference 'Spintronics', Poznan 25-30/09/2005
29. *Spin relaxation in quantum dots* – ESF Conference 'Entanglement and Coherence in Nanoelectronics', Acquafredda di Maratea, Italy, 03-08 September 2005
28. *Limitations on the applicability of Ergodicity Hypothesis to mesoscopic fluctuations in metallic wires* – Benasque Workshop 'Quantum Information and Decoherence in Condensed Matter', Benasque Spain, 26/06-15/07/2005
27. *Spin relaxation in quantum dots* – International Conference 'Fundamentals of Electronic Nanosystems', St.Petersburg Russia, 25/06-01/07/2005
26. *Magneto-oscillations in 2DEG caused by surface acoustic waves and microwaves* - UNM-NECE Workshop 'Non-Equilibrium and Correlation Effects in Low-Dimensional Structures', Minneapolis USA, 29/01-01/05/2005
25. *Spin-orbit coupling and spin symmetry in chaotic quantum dots* – Max-Planck-Institut Research workshop SCATT05: Aspects of Quantum Chaotic Scattering, Dresden 7-12 March 2005
24. *Introduction to quantum transport and mesoscopics in 10 lectures* – Jyvaskyla Summer School, Jyvaskyla Finland, 1-28 August 2004
23. *Gauge theory for spin-orbit coupling in quantum dots* – EuroScool on 'Field Theory of Quantum Coherence, Correlations, and Mesoscopics', Windsor UK, 9-22 August 2004
22. *Spin relaxation and quantum transport in quantum dots* – Workshop on 'Cooperative Phenomena in Optics and Transport in Nanostructures' MPI-PKS Dresden Germany, 31 May – 14 June 2004
21. *Magneto-oscillations and non-linear effects induced in 2DEG by surface acoustic waves and edge magneto-plasmons* Workshop on 'Quantum Systems out of Equilibrium', ICTP Trieste Italy, 14-25 June 2004
20. *Spin-orbit coupling and quantum transport in semiconductor dots and wires* – Rencontre de Moriond 'Quantum Information and Decoherence in Nanosystems' 2004, La Thuile Italy, 25-31 January 2004
19. *Applicability of Ergodicity Hypothesis to conductance fluctuations in metallic wires* – EC-RTN Meeting Nanoscale Dynamics, Coherence, and Computation, Calvia de Mallorca – Spain, 30 Sept - 4 Oct 2003
18. *Spin relaxation and phase coherent transport in quantum dots* - EURESCO Conference on 'Fundamental Problems of Mesoscopic Physics', Granada – Spain, 6-11 Sept. 2003
17. *Spin-orbit coupling, spin relaxation and quantum transport in chaotic semiconductor dots* - HERAEUS workshop 'Quantum Field Theory in Particle and Solid State Physics', Dresden - Germany, June 2 - 6, 2003
16. *Subgap Transport in Ferromagnet-superconductor junctions* – Bogolubov – de Gennes Workshop, Bristol – UK, 30 May – 1 June 2003.
15. *Spin relaxation and quantum transport in quantum dots and wires* - International Workshop 'Electrons in zero-dimensional conductors' Dresden Germany, 18-30/11/2002
14. *Spin-orbit coupling effects on quantum transport in lateral semiconductor dots* - Workshop on 'Nanoscience', Institute for Nuclear Physics, Seattle University, USA, Aug - Sept 2002
13. *Spin-orbit coupling effects on quantum transport* - RTN Conference on 'Quantum Transport', Rome Italy, April 2002
12. *Spin-orbit coupling, spin relaxation and new Random Matrix Theory ensembles* - Workshop on Mesoscopic Physics and Electron Interaction, ICTP Trieste, 25 June – 4 July 2002
11. *In-plane field effects in chaotic quantum dots* - Workshop on 'Guided Quantum Particles: from Mathematics to Mesoscopics, Prague, 9-14 June 2002
10. *Spin-orbit coupling effects on quantum transport in lateral semiconductor dots* – KITP Workshop on 'Nanoscience', Institute for Theoretical Physics UC Santa Barbara, USA, Aug - Dec 2001
- Mesoscopic PhotoVoltaic Effect* International Workshop on 'Nanostructures in Photovoltaics' Dresden Germany, 28.07-4.08/2001
9. *Magnon-assisted Andreev transport across ferromagnet-superconductor junctions* - International COST Workshop on 'Spintronics and mesoscopic superconductivity', Brighton UK, 11-13/04/2001
8. *Mesoscopic Fluctuations in Quantum Dots (3-lecture course on field theory methods in mesoscopic physics)* - NATO Advanced Study Institute on 'Field theory of strongly correlated fermions and bosons in low-dimensional disordered systems' Windsor UK, 13.8-26.8/2001
7. *Orbital effect of in-plane magnetic field on quantum transport in chaotic lateral dots* – TMR-EC Conference on 'Quantum Transport' Budapest Hungary, May 2001
6. *Magnon-assisted Andreev reflection in FS junctions* - International COST Meeting on 'Mesoscopic superconductivity and Spin Injection', Villard de Lans France, May 10-12, 2001
5. *Linear and non-linear sub-gap transport in S/F junctions* - XXXVIth Rencontre de Moriond 'Electronic correlations: from meso- to nano-physics', Les Arcs - Jan 2001
4. *Theory of Andreev scattering in ferromagnet-superconductor junctions* - Condensed Matter and Material Physics Conference of IOP, Bristol - Dec. 2000
3. *Resonant tunneling spectroscopy of local density of states in disordered metals* - EC-COST Conference on 'Mesoscopic Electronics', Delft - April 2000
2. *Phonon-mediated thermal conductance of mesoscopic wires with rough edges* - TMR-EC Conference on 'Quantum Transport', Gargese/Corsica - May 2000
1. *Spin-orbit coupling in quantum Hall ferromagnets with vanishing Zeeman energy* - International Research workshop on 'Strongly Correlated Electron Systems', Newton Institute, Cambridge - March 2000