Mikhail E Portnoi

List of Publications by Year
in descending order

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133	2,360	159358 30	233125 45
papers	citations	h-index	g-index

136	136	136	1468
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Quasi-exact solutions for guided modes in two-dimensional materials with tilted Dirac cones. Scientific Reports, 2022, 12, 7688.	1.6	4
2	Optical absorption in two-dimensional materials with tilted Dirac cones. Physical Review B, 2022, 105, .	1.1	12
3	Tuning terahertz transitions in <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi>cyclo</mml:mi><mml:mo>[</mml:mo><mml:mi>n</mm rings. Physical Review B, 2022, 106, .	1.1	3
4	Terahertz transitions in finite carbon chains. Physical Review Research, 2021, 3, .	1.3	2
5	A Graphene THz Detector based on Plasmon Resonances and Interband Transitions. , 2021, , .		1
6	Middle- and far-infrared detector based on the plane collection of graphene strips. , 2021, 65, 661-667.	0.0	0
7	Excitonic Fine Structure in Emission of Linear Carbon Chains. Nano Letters, 2020, 20, 6502-6509.	4.5	25
8	Guided modes and terahertz transitions for two-dimensional Dirac fermions in a smooth double-well potential. Physical Review A, 2020, 102, .	1.0	8
9	Bipolar electron waveguides in graphene. Physical Review B, 2020, 102, .	1.1	9
10	Interband transitions in narrow-gap carbon nanotubes and graphene nanoribbons. , 2019, , 99-117.		1
11	Terahertz Applications of Non-Simply-Connected and Helical Nanostructures. NATO Science for Peace and Security Series B: Physics and Biophysics, 2019, , 201-214.	0.2	1
12	Double-Gated Nanohelix as a Novel Tunable Binary Superlattice. Nanoscale Research Letters, 2019, 14, 257.	3.1	2
13	Zeroâ€Energy Vortices in Dirac Materials. Physica Status Solidi (B): Basic Research, 2019, 256, 1800584.	0.7	12
14	Trapping Charge Carriers in Low-Dimensional Dirac Materials. International Journal of Nanoscience, 2019, 18, 1940001.	0.4	7
15	Interband transitions in narrow-gap carbon nanotubes and graphene nanoribbons. Journal of Applied Physics, 2019, 125, .	1.1	21
16	Strong Lightâ€“Matter Coupling in Carbon Nanotubes as a Route to Exciton Brightening. ACS Photonics, 2019, 6, 904-914.	3.2	27
17	Carbon nanotube array as a van der Waals two-dimensional hyperbolic material. Physical Review B, 2019, 100, .	1.1	7
18	Hidden correlation between absorption peaks in achiral carbon nanotubes and nanoribbons. Journal of Saudi Chemical Society, 2018, 22, 985-992.	2.4	15

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19	Ab-initio study of electronic properties of a two-dimensional array of carbon nanotubes. Journal of Physics: Conference Series, 2018, 1092, 012120.	0.3	0
20	Terahertz transitions in narrow-gap carbon nanotubes and graphene nanoribbons. Journal of Physics: Conference Series, 2018, 1092, 012121.	0.3	1
21	Terahertz Optoelectronics of Quantum Rings and Nanohelices. Semiconductors, 2018, 52, 1813-1816.	0.2	2
22	Multilayer phosphorene quantum dots in an electric field: Energy levels and optical absorption. Journal of Applied Physics, 2018, 124, .	1.1	15
23	Quantum Rings in Electromagnetic Fields. Nanoscience and Technology, 2018, , 347-409.	1.5	1
24	Anomalous electromagnetic coupling via entanglement at the nanoscale. New Journal of Physics, 2017, 19, 023014.	1.2	11
25	Bielectron vortices in two-dimensional Dirac semimetals. Nature Communications, 2017, 8, 897.	5.8	48
26	TERAHERTZ TRANSITIONS IN NARROW-GAP CARBON NANOTUBES AND GRAPHENE NANORIBBONS. , 2017, , 176-179.		0
27	Electro-optical properties of phosphorene quantum dots. Physical Review B, 2017, 96, .	1.1	48
28	Two-dimensional Dirac particles in a PÃ¶schl-Teller waveguide. Scientific Reports, 2017, 7, 11599.	1.6	28
29	Optical selection rules of zigzag graphene nanoribbons. Physical Review B, 2017, 95, .	1.1	44
30	Localization of massless Dirac particles via spatial modulations of the Fermi velocity. Journal of Physics Condensed Matter, 2017, 29, 315301.	0.7	29
31	Pair states in one-dimensional Dirac systems. Physical Review A, 2017, 95, .	1.0	12
32	Tuning terahertz transitions in a double-gated quantum ring. Physical Review B, 2017, 96, .	1.1	10
33	Terahertz transitions in carbon nanotubes and graphene nanoribbons. , 2017, , .		0
34	TUNING THz TRANSITIONS IN A QUANTUM RING WITH TWO GATES. , 2017, , 172-175.		2
35	Electro-absorption of silicene and bilayer graphene quantum dots. Journal of Applied Physics, 2016, 120, .	1.1	34
36	Exciton states in narrow-gap carbon nanotubes. AIP Conference Proceedings, 2016, , .	0.3	6

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37	Quantum entanglement in electric circuits: From anomalous crosstalk to electromagnetic compatibility in nano-electronics. , 2016, , .		0
38	Carbon Nanotubes and Graphene Nanoribbons for Terahertz Applications. NATO Science for Peace and Security Series B: Physics and Biophysics, 2016, , 103-123.	0.2	1
39	Electromagnetic Properties of Nanohelices. NATO Science for Peace and Security Series B: Physics and Biophysics, 2016, , 27-44.	0.2	3
40	Massless Dirac fermions in two dimensions: Confinement in nonuniform magnetic fields. Physical Review B, 2016, 94, .	1.1	41
41	Magnetic quantum dots and rings in two dimensions. Physical Review B, 2016, 94, .	1.1	29
42	Nanohelices as superlattices: Bloch oscillations and electric dipole transitions. Physical Review B, 2016, 94, .	1.1	14
43	Optimal traps in graphene. Physical Review B, 2015, 92, .	1.1	31
44	Two-phonon scattering in graphene in the quantum Hall regime. Physical Review B, 2015, 92, .	1.1	3
45	Terahertz Applications of Carbon Nanotubes and Graphene Nanoribbons. , 2015, , .		3
46	Electromagnetic compatibility in nano-electronics: Manifestation and suppression of quantum crosstalk. , 2015, , .		2
47	Equivalent electrical multiport for quantum systems in entangled states. , 2015, , .		2
48	Nanoscale Electromagnetic Compatibility: Quantum Coupling and Matching in Nanocircuits. IEEE Transactions on Electromagnetic Compatibility, 2015, 57, 1645-1654.	1.4	24
49	Terahertz transitions in quasi-metallic carbon nanotubes. IOP Conference Series: Materials Science and Engineering, 2015, 79, 012014.	0.3	9
50	One-dimensional Coulomb problem in Dirac materials. Physical Review A, 2014, 90, .	1.0	49
51	Terahertz science and technology of carbon nanomaterials. Nanotechnology, 2014, 25, 322001.	1.3	156
52	Quasi-exact solution to the Dirac equation for the hyperbolic-secant potential. Physical Review A, 2014, 89, .	1.0	72
53	Aharonov-Bohm quantum rings in high-Qmicrocavities. Physical Review B, 2013, 88, .	1.1	25
54	One-dimensional Van Hove polaritons. Physical Review B, 2013, 87, .	1.1	8

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55	Excitons and interband terahertz transitions in narrow-gap carbon nanotubes. , 2013, , .		2
56	Searching for confined modes in graphene channels: The variable phase method. Physical Review B, 2012, 86, .	1.1	45
57	Terahertz transitions in Aharonov-Bohm quantum rings in an external electric field. Physica Status Solidi C: Current Topics in Solid State Physics, 2012, 9, 1309-1314.	0.8	10
58	Electric dipole moment oscillations in Aharonov-Bohm quantum rings. Physical Review B, 2012, 85, .	1.1	34
59	Excitons in narrow-gap carbon nanotubes. Physical Review B, 2011, 84, .	1.1	50
60	Zero-energy states in graphene quantum dots and rings. Physical Review B, 2011, 84, .	1.1	80
61	TERAHERTZ PROCESSES IN CARBON NANOTUBES CONTROLLED BY A MAGNETIC FIELD. , 2011, , .		0
62	Mechanisms of terahertz emission from carbon nanotubes. Physica B: Condensed Matter, 2010, 405, 3054-3056.	1.3	7
63	Smooth electron waveguides in graphene. Physical Review B, 2010, 81, .	1.1	114
64	Terahertz processes in carbon nanotubes. Journal of Nanophotonics, 2010, 4, 041665.	0.4	52
65	MAGNETICALLY CONTROLLED TERAHERTZ ABSORPTION AND EMISSION IN CARBON NANOTUBES. International Journal of Modern Physics B, 2009, 23, 2846-2850.	1.0	37
66	Carbon nanotubes as a basis for terahertz emitters and detectors. Microelectronics Journal, 2009, 40, 776-778.	1.1	56
67	Exciton Storage in a Nanoscale Aharonov-Bohm Ring with Electric Field Tuning. Physical Review Letters, 2009, 102, 096405.	2.9	53
68	Superlattice properties of semiconductor nanohelices in a transverse electric field. Physica E: Low-Dimensional Systems and Nanostructures, 2008, 40, 1899-1901.	1.3	12
69	Carbon nanotubes as a basis for novel terahertz devices. Physica E: Low-Dimensional Systems and Nanostructures, 2008, 40, 1766-1768.	1.3	8
70	Theory of the excitonic Mott transition in quasi-two-dimensional systems. Superlattices and Microstructures, 2008, 43, 460-464.	1.4	16
71	Terahertz applications of carbon nanotubes. Superlattices and Microstructures, 2008, 43, 399-407.	1.4	99
72	Photon emission induced by elastic exciton-carrier scattering in semiconductor quantum wells. European Physical Journal B, 2008, 65, 195-206.	0.6	8

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73	Spin-orbit terms in multi-subband electron systems: a bridge between bulk and two-dimensional Hamiltonians. Semiconductors, 2008, 42, 989-993.	0.2	4
74	Prospective Terahertz Applications of Carbon Nanotubes. NATO Science for Peace and Security Series B: Physics and Biophysics, 2008, , 81-93.	0.2	0
75	Use of the Faraday optical transformer for ultrafast magnetization reversal of nanomagnets. Journal of Nanophotonics, 2007, 1, 013502.	0.4	14
76	Carbon nanotubes as terahertz emitters and detectors. AIP Conference Proceedings, 2007, , .	0.3	0
77	Helical nanostructures and Aharonov-Bohm quantum rings in a transverse electric field. AIP Conference Proceedings, 2007, , .	0.3	3
78	Generation of Terahertz Radiation by Hot Electrons in Carbon Nanotubes. Nano Letters, 2007, 7, 3414-3417.	4.5	100
79	Semiconductor nanohelix in electric field: A superlattice of the new type. Technical Physics Letters, 2007, 33, 878-880.	0.2	16
80	Generation of femtosecond electromagnetic pulses at the nanoscale. , 2006, , .		0
81	Terahertz emitters and detectors based on carbon nanotubes. , 2006, , .		12
82	Electron-phonon scattering at the intersection of two Landau levels. Physical Review B, 2006, 74, .	1.1	17
83	Induced currents, frozen charges and the quantum Hall effect breakdown. Solid State Communications, 2005, 134, 257-259.	0.9	5
84	Carbon Nanotubes: A New Type of Emitter in the Terahertz Range. Technical Physics Letters, 2005, 31, 671.	0.2	48
85	Generation of femtosecond current pulses using the inverse magneto-optical Faraday effect. Technical Physics Letters, 2005, 31, 1047-1048.	0.2	12
86	High-Current Breakdown of the Quantum Hall Effect. AIP Conference Proceedings, 2005, , .	0.3	0
87	Breakdown of the Quantum Hall Effects in Hole Systems at High Induced Currents. AIP Conference Proceedings, 2005, , .	0.3	1
88	A new type of superlattice based on carbon nanotubes. AIP Conference Proceedings, 2005, , .	0.3	0
89	Excitonic Mott transition in spatially-separated electron-hole systems. AIP Conference Proceedings, 2005, , .	0.3	1
90	Exact solutions for few-particle anyon excitons. AIP Conference Proceedings, 2005, , .	0.3	0

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91	Superlattice Properties of Helical Nanostructures in a Transverse Electric Field. Electromagnetics, 2005, 25, 425-435.	0.3	42
92	Superlattice properties of carbon nanotubes in a transverse electric field. Physical Review B, 2005, 71, .	1.1	73
93	BREAKDOWN OF THE QUANTUM HALL EFFECTS IN HOLE SYSTEMS AT HIGH INDUCED CURRENTS. , 2005, , .		0
94	EXACTLY-SOLVABLE PROBLEMS FOR TWO-DIMENSIONAL EXCITONS. , 2005, , .		1
95	HIGH-CURRENT BREAKDOWN OF THE QUANTUM HALL EFFECT. , 2005, , .		0
96	Temperature dependence of the breakdown of the quantum Hall effect studied by induced currents. Physical Review B, 2004, 70, .	1.1	33
97	HIGH-CURRENT BREAKDOWN OF THE QUANTUM HALL EFFECT. International Journal of Modern Physics B, 2004, 18, 3593-3596.	1.0	2
98	BREAKDOWN OF THE QUANTUM HALL EFFECTS IN HOLE SYSTEMS AT HIGH INDUCED CURRENTS. International Journal of Modern Physics B, 2004, 18, 3537-3540.	1.0	6
99	Mott transition of spatially indirect excitons. , 2004, , .		3
100	Theory of excitonic Mott transition in double quantum wells. Physica Status Solidi C: Current Topics in Solid State Physics, 2004, 1, 1357-1362.	0.8	11
101	Exact solutions for a few-particle exciton in the fractional quantum Hall regime. Physica Status Solidi C: Current Topics in Solid State Physics, 2004, 1, 1363-1366.	0.8	0
102	Temperature-dependent high-current breakdown of the quantum Hall effect. Physica E: Low-Dimensional Systems and Nanostructures, 2004, 22, 201-204.	1.3	1
103	Superlattice behavior of carbon nanotubes in a transverse electric field. , 2004, , .		0
104	Two-dimensional exciton revisited. Physica E: Low-Dimensional Systems and Nanostructures, 2003, 17, 212-214.	1.3	1
105	Phonon-assisted recombination of intra-subband magnetoexcitons and two-phonon dissociation of magnetorotons in the quantum Hall regime. Physica E: Low-Dimensional Systems and Nanostructures, 2003, 17, 217-219.	1.3	1
106	Two-dimensional exciton: Unexpected beauty. Physica Status Solidi A, 2003, 195, 596-599.	1.7	0
107	Anyon exciton revisited:â€‚â€‚Exact solutions for a few-particle system. Physical Review B, 2003, 68, .	1.1	9
108	FEW-PARTICLE ANYON EXCITON: EXACT SOLUTIONS. International Journal of Nanoscience, 2003, 02, 461-468.	0.4	0

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109	Addendum: â€œThe two-dimensional hydrogen atom revisitedâ€•[J. Math. Phys. 43, 4681 (2002)]. Journal of Mathematical Physics, 2003, 44, 1453-1453.	0.5	0
110	Tuning gaps and phases of a two-subband system in a quantizing magnetic field. Physical Review B, 2002, 65, .	1.1	32
111	Two-phonon scattering of magnetorotons in fractional quantum Hall liquids. Physical Review B, 2002, 66, .	1.1	34
112	The two-dimensional hydrogen atom revisited. Journal of Mathematical Physics, 2002, 43, 4681.	0.5	76
113	Ionization Degree of Electron-Hole Plasma in GaN/AlGaN Quantum Wells. Physica Status Solidi A, 2002, 190, 113-119.	1.7	2
114	Optical Nonlinearities in a Microcavity with InGaN Quantum Wells: Self-Assembled Quantum Dots Approach. Physica Status Solidi A, 2002, 190, 193-198.	1.7	1
115	Statistical Mechanics of Screened Spatially Indirect Excitons. Physica Status Solidi A, 2002, 190, 655-660.	1.7	3
116	Phonon-Assisted Luminescence of Magnetoexcitons in Semiconductor Quantum Wells. Physica Status Solidi A, 2002, 190, 661-665.	1.7	2
117	Electronâ€"phonon interaction in a two-subband quasi-2D system in a quantizing magnetic field. Physica E: Low-Dimensional Systems and Nanostructures, 2002, 12, 470-473.	1.3	1
118	Two-subband system in quantizing magnetic field: probing many-body gap by non-equilibrium phonons. Physica E: Low-Dimensional Systems and Nanostructures, 2002, 15, 202-210.	1.3	3
119	Photon Recycling White Light Emitting Diode Based on InGaN Multiple Quantum Well Heterostructure. Physica Status Solidi A, 2001, 183, 177-182.	1.7	8
120	Exciton/Free-Carrier Plasma in GaN-Based Quantum Wells: Scattering and Screening. Physica Status Solidi A, 2001, 183, 87-90.	1.7	1
121	Ionization degree of the electron-hole plasma in semiconductor quantum wells. Physical Review B, 1999, 60, 5570-5581.	1.1	36
122	Screened excitons in wide-gap semiconductors and quantum wells. Journal of Crystal Growth, 1998, 184-185, 676-681.	0.7	3
123	Levinsonâ€™s theorem and scattering phase-shift contributions to the partition function of interacting gases in two dimensions. Physical Review B, 1998, 58, 3963-3968.	1.1	23
124	Screened excitons in wide-gap semiconductors and quantum wells. Journal of Crystal Growth, 1998, 184-185, 676-681.	0.7	0
125	Variable-phase method and Levinson's theorem in two dimensions: Application to a screened Coulomb potential. Solid State Communications, 1997, 103, 325-329.	0.9	38
126	Theory of anyon excitons: Relation to excitons of Î½=1/3 and Î½=2/3 incompressible liquids. Physical Review B, 1996, 54, 13791-13806.	1.1	14

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127	Four-particle two-dimensional magnetoexciton. Nuovo Cimento Della Societa Italiana Di Fisica D - Condensed Matter, Atomic, Molecular and Chemical Physics, Biophysics, 1995, 17, 1669-1673.	0.4	0
128	FOUR-PARTICLE ANYON EXCITON: BOSON APPROXIMATION. Modern Physics Letters B, 1995, 09, 123-133.	1.0	3
129	Spectroscopy of the fractional quantum Hall effect: Manifestation of fractional charges. Journal of Luminescence, 1994, 60-61, 782-785.	1.5	2
130	TE and TM optical gains in AlGaAs/GaAs single-quantum-well lasers. Semiconductor Science and Technology, 1993, 8, 80-87.	1.0	22
131	Anyon excitons. Physical Review Letters, 1993, 70, 3315-3318.	2.9	32
132	Theory of optical orientation and alignment in quantum wells. Superlattices and Microstructures, 1991, 10, 371-374.	1.4	2
133	Exciton/free carrier plasma in wide-gap semiconductors. , 0, , .		0