StanisÅ‚aw Bednarek

List of Publications by Year
in descending order

106 papers	2,233 citations	201674 27 h-index	233421 45 g-index
111 all docs	111 docs citations	111 times ranked	890 citing authors

#	Article	IF	Citations
1	Spin-Selective Resonant Tunneling Induced by Rashba Spin-Orbit Interaction in Semiconductor Nanowire. Physical Review Applied, 2021, 15, .	3.8	1
2	Ultrafast Spin Initialization in a Gated InSb Nanowire Quantum Dot. Physical Review Applied, 2019, 11, .	3.8	4
3	Valley qubit in a gated <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi mathvariant="bold">MoS</mml:mi><mml:mn>2</mml:mn></mml:msub></mml:math> monolayer quantum dot. Physical Review B, 2018, 97, .	3.2	49
4	All-electric single-electron spin-to-charge conversion. Physical Review B, 2018, 98, .	3.2	1
5	Generation of SchrÃ¶dinger cat type states in a planar semiconductor heterostructure. Physical Review B, 2017, 96, .	3.2	9
6	All-electric single electron spin initialization. New Journal of Physics, 2017, 19, 123006.	2.9	5
7	Generation of spin-dependent coherent states in a quantum wire. Physical Review B, 2016, 94, .	3.2	8
8	Electron spin rotations induced by oscillating Rashba interaction in a quantum wire. Physical Review B, 2016, 93, .	3.2	18
9	Long-distance entanglement of soliton spin qubits in gated nanowires. Physical Review B, 2015, 92, .	3.2	11
10	Electron spin separation without magnetic field. Journal of Physics Condensed Matter, 2014, 26, 345302.	1.8	12
11	All-electrical control of quantum gates for single heavy-hole spin qubits. Physical Review B, 2013, 87, .	3.2	14
12	Manipulation of a single electron spin in a quantum dot without magnetic field. Applied Physics Letters, 2012, 100, .	3.3	8
13	Spin-Orbit-Mediated Manipulation of Heavy-Hole Spin Qubits in Gated Semiconductor Nanodevices. Physical Review Letters, 2012, 109, 107201.	7.8	43
14	Nanodevice for High Precision Readout of Electron Spin. Acta Physica Polonica A, 2011, 119, 651-653.	0.5	0
15	Spin accumulation and spin read out without magnetic field. Physical Review B, 2010, 82, .	3.2	10
16	Selective suppression of Dresselhaus or Rashba spin-orbit coupling effects by the Zeeman interaction in quantum dots. Physical Review B, 2009, 79, .	3.2	16
17	Magnetic-Field Asymmetry of Electron Wave Packet Transmission in Bent Channels Capacitively Coupled to a Metal Gate. Physical Review Letters, 2009, 102, 066807.	7.8	13
18	Gated combo nanodevice for sequential operations on single electron spin. Nanotechnology, 2009, 20, 065402.	2.6	6

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19	Single Electron Spin Operations Employed for Logical Gates of Quantum Computer. Acta Physica Polonica A, 2009, 116, S-7-S-12.	0.5	0
20	Exciton spectra in vertical stacks of triple and quadruple quantum dots in an electric field. Physical Review B, 2008, 77, .	3.2	20
21	Spin Rotations Induced by an Electron Running in Closed Trajectories in Gated Semiconductor Nanodevices. Physical Review Letters, 2008, 101, 216805.	7.8	33
22	Induced Quantum Dots and Wires: Electron Storage and Delivery. Physical Review Letters, 2008, 100, 126805.	7.8	22
23	Quantum dot defined in a two-dimensional electron gas at a<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mi>n</mml:mi><mml:mtext>â^’</mml:mtext><mml:mi mathvariant="normal">Al</mml:mi><mml:mi mathvariant="normal">Ga</mml:mi><mml:mi mathvariant="normal">As</mml:mi><mml:mo>â^•</mml:mo><mml:mi mathvariant="normal">Ga</mml:mi><mml:mi mathvariant="normal">As</mml:mi></mml:mrow></mml:m	3.2	15
24	Electron correlations in charge coupled vertically stacked quantum rings. Physical Review B, 2007, 75, .	3.2	12
25	Controlled exchange interaction for quantum logic operations with spin qubits in coupled quantum dots. Physical Review A, 2007, 76, .	2.5	12
26	Stark effect on the exciton spectra of vertically coupled quantum dots: Horizontal field orientation and nonaligned dots. Physical Review B, 2007, 75, .	3.2	38
27	Energy dissipation of electron solitons in a quantum well. Physical Review B, 2006, 73, .	3.2	13
28	Self-focusing of a quantum-well-confined electron wave packet interacting with a metal plate. Physica Status Solidi (B): Basic Research, 2006, 243, 2811-2818.	1.5	2
29	Stability of Charged Exciton States in Quantum Wires. Few-Body Systems, 2006, 38, 121-124.	1.5	3
30	Broken one-particle symmetry in few-electron coupled quantum dots. Physical Review B, 2006, 73, .	3.2	4
31	Magnetic-field-induced binding of few-electron systems in shallow quantum dots. Physical Review B, 2006, 74, .	3.2	2
32	Coulomb-interaction driven anomaly in the Stark effect for an exciton in vertically coupled quantum dots. Journal of Luminescence, 2005, 112, 122-126.	3.1	9
33	Exact broken-symmetry states and Hartreeâ€"Fock solutions for quantum dots at high magnetic fields. Physica E: Low-Dimensional Systems and Nanostructures, 2005, 26, 252-256.	2.7	2
34	Exciton and negative trion dissociation by an external electric field in vertically coupled quantum dots. Physical Review B, 2005, 71, .	3.2	58
35	Electron soliton in semiconductor nanostructures. Physical Review B, 2005, 72, .	3.2	15
36	Time-evolution simulation of a controlled-NOT gate with two coupled asymmetric quantum dots. Physical Review A, 2005, 71, .	2.5	9

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37	Relative stability of negative and positive trions in model symmetric quantum wires. Physical Review B, 2005, 71, .	3.2	24
38	A classical model for the magnetic field-induced Wigner crystallization in quantum dots. Journal of Physics Condensed Matter, 2004, 16, 1425-1437.	1.8	1
39	Exchange energy tuned by asymmetry in artificial molecules. Physical Review B, 2004, 70, .	3.2	35
40	Spatial ordering of charge and spin in quasi-one-dimensional Wigner molecules. Physical Review B, 2004, 70, .	3.2	49
41	Anisotropic quantum dots: Correspondence between quantum and classical Wigner molecules, parity symmetry, and broken-symmetry states. Physical Review B, 2004, 69, .	3.2	43
42	In-plane magnetic-field-induced Wigner crystallization in a two-electron quantum dot. Physical Review B, 2004, 70, .	3.2	7
43	Accuracy of the Hartree-Fock method for Wigner molecules at high magnetic fields. European Physical Journal D, 2004, 28, 373-380.	1.3	14
44	Electron spin and charge switching in a coupled quantum-dotâ€"quantum ring system. Physical Review B, 2004, 70, .	3.2	32
45	Electrostatic quantum dots with designed shape of confinement potential. Physica E: Low-Dimensional Systems and Nanostructures, 2003, 17, 494-497.	2.7	41
46	Single-electron charging spectra: from natural to artificial atoms. Physica E: Low-Dimensional Systems and Nanostructures, 2003, 18, 523-529.	2.7	2
47	Configuration interaction study of the single-electron transport in the vertical gated quantum dot. Physica Status Solidi (B): Basic Research, 2003, 237, 289-295.	1.5	0
48	Modeling of electronic properties of electrostatic quantum dots. Physical Review B, 2003, 68, .	3.2	101
49	Magnetic-field-induced transformations of Wigner molecule symmetry in quantum dots. Physical Review B, 2003, 67, .	3.2	23
50	Four-electron quantum dot in a magnetic field. Physical Review B, 2003, 68, .	3.2	93
51	Artificial molecules in coupled and single quantum dots. Physical Review B, 2003, 67, .	3.2	29
52	Effective interaction for charge carriers confined in quasi-one-dimensional nanostructures. Physical Review B, 2003, 68, .	3.2	78
53	Correlation effects in vertical gated quantum dots. Physical Review B, 2003, 67, .	3.2	17
54	Magnetic-field-induced phase transitions in Wigner molecules. Journal of Physics Condensed Matter, 2003, 15, 4189-4205.	1.8	17

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55	Electron Pairs and Excitons in Quasi-One-Dimensional Nanostructures. Acta Physica Polonica A, 2003, 103, 567-572.	0.5	0
56	Effect of the repulsive core on the exciton spectrum in a quantum ring. Journal of Physics Condensed Matter, 2002, 14, 73-86.	1.8	17
57	Excitonic trions in single and double quantum dots. Physical Review B, 2002, 66, .	3.2	43
58	Modelling of confinement potentials in quantum dots. Physica E: Low-Dimensional Systems and Nanostructures, 2002, 15, 261-268.	2.7	85
59	Theoretical description of electronic properties of vertical gated quantum dots. Physical Review B, 2001, 64, .	3.2	43
60	Parity symmetry and energy spectrum of excitons in coupled self-assembled quantum dots. Physical Review B, 2001, 64, .	3.2	135
61	Induced-charge distribution in vertical quantum dots. , 2001, 4413, 129.		0
62	Electric- and magnetic-field-induced evolution of transport windows in a vertical quantum dot. Physical Review B, 2001, 65, .	3.2	9
63	Transport and Capacitance Spectroscopy of Quantum Dots. Acta Physica Polonica A, 2001, 100, 145-163.	0.5	0
64	Single-electron charging of self assembled quantum dots. Thin Solid Films, 2000, 367, 93-96.	1.8	3
65	MBE-grown gate-controlled quantum-dot nanostructure and its currentâ€“voltage characteristics. Thin Solid Films, 2000, 367, 97-100.	1.8	0
66	Quantum Coulomb blockade in gate-controlled quantum dots. Microelectronic Engineering, 2000, 51-52, 99-109.	2.4	3
67	Infrared optical versus transport spectroscopy for few-electron spherical quantum dots. Journal of Physics Condensed Matter, 2000, 12, 6837-6844.	1.8	0
68	Solution of the Poisson-SchrÃ¶dinger problem for a single-electron transistor. Physical Review B, 2000, 61, 4461-4464.	3.2	30
69	Electron pair in a Gaussian confining potential. Physical Review B, 2000, 62, 4234-4237.	3.2	182
70	Recombination energy for excitonic trions in quantum dots. Journal of Physics Condensed Matter, 2000, 12, 2453-2459.	1.8	21
71	Few-electron systems in quantum cylinders. Physical Review B, 2000, 61, 1971-1977.	3.2	30
72	Optical Properties of Bound Polarons in Quantum Wells. , 2000, , 77-80.		0

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73	Effect of the electron-phonon coupling on the ground state of aDâˆ'center in a spherical quantum dot. Physical Review B, 1999, 60, 15558-15561.	3.2	14
74	Ground and excited states of few-electron systems in spherical quantum dots. Physica E: Low-Dimensional Systems and Nanostructures, 1999, 4, 1-10.	2.7	77
75	Electronâ€"electron correlation in quantum dots. Physica E: Low-Dimensional Systems and Nanostructures, 1999, 5, 185-195.	2.7	56
76	Phonon resonances in optical spectra of donors in quantum wells. Physica B: Condensed Matter, 1999, 273-274, 947-950.	2.7	4
77	Many-electron artificial atoms. Physical Review B, 1999, 59, 13036-13042.	3.2	118
78	Few-Electron Artificial Atoms. Few-Body Systems, 1999, , 189-198.	0.2	2
79	Influence of Donor Impurity on Optical Transitions in Quantum Dots. Physica Status Solidi (B): Basic Research, 1998, 210, 677-682.	1.5	5
80	Metastability and lattice relaxation forD0andDâˆ'donor centers. Physical Review B, 1998, 57, 14729-14738.	3.2	11
81	Theoretical Description of Shell Filling in Cylindrical Quantum Dots. Acta Physica Polonica A, 1998, 94, 555-559.	0.5	6
82	Coexistence of weakly and strongly localized donor states in semiconductors. Physical Review B, 1997, 55, 2195-2206.	3.2	4
83	Long-Range Lattice Relaxation for Donor Centers in Supercell Method. Materials Science Forum, 1997, 258-263, 1287-1292.	0.3	0
84	<title>RF sputtering deposition of CdTe on GaAs substrate</title>. , 1997, 3179, 25.		0
85	Metastable One- and Two-Electron donor States in GaAs and CdF2. Acta Physica Polonica A, 1996, 90, 719-722.	0.5	0
86	Nature of anticrossing between donor energy levels in GaAs. Physical Review B, 1995, 51, 4687-4690.	3.2	4
87	Anion-Cation Site Dependence of Pressure Coefficients for Donors in GaAs. Acta Physica Polonica A, 1995, 88, 671-674.	0.5	0
88	Effect of short-range potential and coupling with phonons on impurity states. Solid State Communications, 1994, 91, 429-434.	1.9	4
89	New Donor State of S Symmetry. Acta Physica Polonica A, 1993, 84, 820-822.	0.5	3
90	Stability of large bipolarons. Journal of Physics Condensed Matter, 1992, 4, 2845-2855.	1.8	23

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91	Donor Bistability Induced by Electron-Phonon Coupling. Materials Science Forum, 1992, 83-87, 493-498.	0.3	3
92	Theoretical Description of Donor Bistability in CdF₂. Materials Science Forum, 1991, 65-66, 427-432.	0.3	1
93	Infrared Absorption on Shallow Donors in CdF2. Acta Physica Polonica A, 1991, 79, 393-396.	0.5	1
94	Conduction Band Influence on the Properties of Bistable Donors. Acta Physica Polonica A, 1991, 80, 357-360.	0.5	2
95	Method of Invariants Applied to Indirect Gap Absorption. Physica Status Solidi (B): Basic Research, 1982, 110, 565-570.	1.5	2
96	Polaron properties of exciton complexes. Journal of Physics C: Solid State Physics, 1981, 14, 4405-4414.	1.5	3
97	Binding energy of exciton-neutral donor complexes. Journal of Physics C: Solid State Physics, 1979, 12, L325-L328.	1.5	11
98	Effective exciton-exciton interaction in polar semiconductors. Solid-State Electronics, 1979, 22, 33-35.	1.4	3
99	Variational wave functions for the biexciton in polar semiconductors. Solid State Communications, 1978, 25, 89-92.	1.9	7
100	Binding energy of exciton complexes in anisotropic semiconductors. Journal of Physics C: Solid State Physics, 1978, 11, 4515-4522.	1.5	1
101	Effective Hamiltonian for few-particle systems in polar semiconductors. Solid State Communications, 1977, 21, 1-3.	1.9	47
102	Binding of an exciton to a neutral donor. Physics Letters, Section A: General, Atomic and Solid State Physics, 1977, 60, 255-256.	2.1	6
103	The influence of the lattice polarization on the biexciton binding energy. Solid State Communications, 1976, 20, 785-787.	1.9	10
104	Binding energy of the biexcitons in isotropic semiconductors. Philosophical Magazine and Journal, 1972, 26, 143-151.	1.7	33
105	Binding energy of four-particle complexes in semiconductors. Physics Letters, Section A: General, Atomic and Solid State Physics, 1972, 41, 347-348.	2.1	11
106	Binding energy of the biexcitons. Solid State Communications, 1971, 9, 2037-2038.	1.9	49