StanisÅ‚aw Bednarek

List of Publications by Year
in descending order

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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	Electron pair in a Gaussian confining potential. Physical Review B, 2000, 62, 4234-4237.	3.2	182
2	Parity symmetry and energy spectrum of excitons in coupled self-assembled quantum dots. Physical Review B, 2001, 64, .	3.2	135
3	Many-electron artificial atoms. Physical Review B, 1999, 59, 13036-13042.	3.2	118
4	Modeling of electronic properties of electrostatic quantum dots. Physical Review B, 2003, 68, .	3.2	101
5	Four-electron quantum dot in a magnetic field. Physical Review B, 2003, 68, .	3.2	93
6	Modelling of confinement potentials in quantum dots. Physica E: Low-Dimensional Systems and Nanostructures, 2002, 15, 261-268.	2.7	85
7	Effective interaction for charge carriers confined in quasi-one-dimensional nanostructures. Physical Review B, 2003, 68, .	3.2	78
8	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
9	Exciton and negative trion dissociation by an external electric field in vertically coupled quantum dots. Physical Review B, 2005, 71, .	3.2	58
10	Electronâ€“electron correlation in quantum dots. Physica E: Low-Dimensional Systems and Nanostructures, 1999, 5, 185-195.	2.7	56
11	Binding energy of the biexcitons. Solid State Communications, 1971, 9, 2037-2038.	1.9	49
12	Spatial ordering of charge and spin in quasi-one-dimensional Wigner molecules. Physical Review B, 2004, 70, .	3.2	49
13	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
14	Effective Hamiltonian for few-particle systems in polar semiconductors. Solid State Communications, 1977, 21, 1-3.	1.9	47
15	Theoretical description of electronic properties of vertical gated quantum dots. Physical Review B, 2001, 64, .	3.2	43
16	Excitonic trions in single and double quantum dots. Physical Review B, 2002, 66, .	3.2	43
17	Anisotropic quantum dots: Correspondence between quantum and classical Wigner molecules, parity symmetry, and broken-symmetry states. Physical Review B, 2004, 69, .	3.2	43
18	Spin-Orbit-Mediated Manipulation of Heavy-Hole Spin Qubits in Gated Semiconductor Nanodevices. Physical Review Letters, 2012, 109, 107201.	7.8	43

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19	Electrostatic quantum dots with designed shape of confinement potential. Physica E: Low-Dimensional Systems and Nanostructures, 2003, 17, 494-497.	2.7	41
20	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
21	Exchange energy tuned by asymmetry in artificial molecules. Physical Review B, 2004, 70, .	3.2	35
22	Binding energy of the biexcitons in isotropic semiconductors. Philosophical Magazine and Journal, 1972, 26, 143-151.	1.7	33
23	Spin Rotations Induced by an Electron Running in Closed Trajectories in Gated Semiconductor Nanodevices. Physical Review Letters, 2008, 101, 216805.	7.8	33
24	Electron spin and charge switching in a coupled quantum-dotâ€“quantum ring system. Physical Review B, 2004, 70, .	3.2	32
25	Solution of the Poisson-SchrÃ¶dinger problem for a single-electron transistor. Physical Review B, 2000, 61, 4461-4464.	3.2	30
26	Few-electron systems in quantum cylinders. Physical Review B, 2000, 61, 1971-1977.	3.2	30
27	Artificial molecules in coupled and single quantum dots. Physical Review B, 2003, 67, .	3.2	29
28	Relative stability of negative and positive trions in model symmetric quantum wires. Physical Review B, 2005, 71, .	3.2	24
29	Stability of large bipolarons. Journal of Physics Condensed Matter, 1992, 4, 2845-2855.	1.8	23
30	Magnetic-field-induced transformations of Wigner molecule symmetry in quantum dots. Physical Review B, 2003, 67, .	3.2	23
31	Induced Quantum Dots and Wires: Electron Storage and Delivery. Physical Review Letters, 2008, 100, 126805.	7.8	22
32	Recombination energy for excitonic trions in quantum dots. Journal of Physics Condensed Matter, 2000, 12, 2453-2459.	1.8	21
33	Exciton spectra in vertical stacks of triple and quadruple quantum dots in an electric field. Physical Review B, 2008, 77, .	3.2	20
34	Electron spin rotations induced by oscillating Rashba interaction in a quantum wire. Physical Review B, 2016, 93, .	3.2	18
35	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
36	Correlation effects in vertical gated quantum dots. Physical Review B, 2003, 67, .	3.2	17

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37	Magnetic-field-induced phase transitions in Wigner molecules. Journal of Physics Condensed Matter, 2003, 15, 4189-4205.	1.8	17
38	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
39	Electron soliton in semiconductor nanostructures. Physical Review B, 2005, 72, .	3.2	15
40	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
41	Effect of the electron-phonon coupling on the ground state of aDâ^'center in a spherical quantum dot. Physical Review B, 1999, 60, 15558-15561.	3.2	14
42	Accuracy of the Hartree-Fock method for Wigner molecules at high magnetic fields. European Physical Journal D, 2004, 28, 373-380.	1.3	14
43	All-electrical control of quantum gates for single heavy-hole spin qubits. Physical Review B, 2013, 87, .	3.2	14
44	Energy dissipation of electron solitons in a quantum well. Physical Review B, 2006, 73, .	3.2	13
45	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
46	Electron correlations in charge coupled vertically stacked quantum rings. Physical Review B, 2007, 75, .	3.2	12
47	Controlled exchange interaction for quantum logic operations with spin qubits in coupled quantum dots. Physical Review A, 2007, 76, .	2.5	12
48	Electron spin separation without magnetic field. Journal of Physics Condensed Matter, 2014, 26, 345302.	1.8	12
49	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
50	Binding energy of exciton-neutral donor complexes. Journal of Physics C: Solid State Physics, 1979, 12, L325-L328.	1.5	11
51	Metastability and lattice relaxation forD0andDâ^'donor centers. Physical Review B, 1998, 57, 14729-14738.	3.2	11
52	Long-distance entanglement of soliton spin qubits in gated nanowires. Physical Review B, 2015, 92, .	3.2	11
53	The influence of the lattice polarization on the biexciton binding energy. Solid State Communications, 1976, 20, 785-787.	1.9	10
54	Spin accumulation and spin read out without magnetic field. Physical Review B, 2010, 82, .	3.2	10

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55	Electric- and magnetic-field-induced evolution of transport windows in a vertical quantum dot. Physical Review B, 2001, 65, .	3.2	9
56	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
57	Time-evolution simulation of a controlled-NOT gate with two coupled asymmetric quantum dots. Physical Review A, 2005, 71, .	2.5	9
58	Generation of SchrÃ¶dinger cat type states in a planar semiconductor heterostructure. Physical Review B, 2017, 96, .	3.2	9
59	Manipulation of a single electron spin in a quantum dot without magnetic field. Applied Physics Letters, 2012, 100, .	3.3	8
60	Generation of spin-dependent coherent states in a quantum wire. Physical Review B, 2016, 94, .	3.2	8
61	Variational wave functions for the biexciton in polar semiconductors. Solid State Communications, 1978, 25, 89-92.	1.9	7
62	In-plane magnetic-field-induced Wigner crystallization in a two-electron quantum dot. Physical Review B, 2004, 70, .	3.2	7
63	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
64	Gated combo nanodevice for sequential operations on single electron spin. Nanotechnology, 2009, 20, 065402.	2.6	6
65	Theoretical Description of Shell Filling in Cylindrical Quantum Dots. Acta Physica Polonica A, 1998, 94, 555-559.	0.5	6
66	Influence of Donor Impurity on Optical Transitions in Quantum Dots. Physica Status Solidi (B): Basic Research, 1998, 210, 677-682.	1.5	5
67	All-electric single electron spin initialization. New Journal of Physics, 2017, 19, 123006.	2.9	5
68	Effect of short-range potential and coupling with phonons on impurity states. Solid State Communications, 1994, 91, 429-434.	1.9	4
69	Nature of anticrossing between donor energy levels in GaAs. Physical Review B, 1995, 51, 4687-4690.	3.2	4
70	Coexistence of weakly and strongly localized donor states in semiconductors. Physical Review B, 1997, 55, 2195-2206.	3.2	4
71	Phonon resonances in optical spectra of donors in quantum wells. Physica B: Condensed Matter, 1999, 273-274, 947-950.	2.7	4
72	Broken one-particle symmetry in few-electron coupled quantum dots. Physical Review B, 2006, 73, .	3.2	4

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73	Ultrafast Spin Initialization in a Gated InSb Nanowire Quantum Dot. Physical Review Applied, 2019, 11, .	3.8	4
74	Effective exciton-exciton interaction in polar semiconductors. Solid-State Electronics, 1979, 22, 33-35.	1.4	3
75	Polaron properties of exciton complexes. Journal of Physics C: Solid State Physics, 1981, 14, 4405-4414.	1.5	3
76	Donor Bistability Induced by Electron-Phonon Coupling. Materials Science Forum, 1992, 83-87, 493-498.	0.3	3
77	Single-electron charging of self assembled quantum dots. Thin Solid Films, 2000, 367, 93-96.	1.8	3
78	Quantum Coulomb blockade in gate-controlled quantum dots. Microelectronic Engineering, 2000, 51-52, 99-109.	2.4	3
79	Stability of Charged Exciton States in Quantum Wires. Few-Body Systems, 2006, 38, 121-124.	1.5	3
80	New Donor State of S Symmetry. Acta Physica Polonica A, 1993, 84, 820-822.	0.5	3
81	Method of Invariants Applied to Indirect Gap Absorption. Physica Status Solidi (B): Basic Research, 1982, 110, 565-570.	1.5	2
82	Single-electron charging spectra: from natural to artificial atoms. Physica E: Low-Dimensional Systems and Nanostructures, 2003, 18, 523-529.	2.7	2
83	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
84	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
85	Magnetic-field-induced binding of few-electron systems in shallow quantum dots. Physical Review B, 2006, 74, .	3.2	2
86	Few-Electron Artificial Atoms. Few-Body Systems, 1999, , 189-198.	0.2	2
87	Conduction Band Influence on the Properties of Bistable Donors. Acta Physica Polonica A, 1991, 80, 357-360.	0.5	2
88	Binding energy of exciton complexes in anisotropic semiconductors. Journal of Physics C: Solid State Physics, 1978, 11, 4515-4522.	1.5	1
89	Theoretical Description of Donor Bistability in CdF₂. Materials Science Forum, 1991, 65-66, 427-432.	0.3	1
90	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

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91	All-electric single-electron spin-to-charge conversion. Physical Review B, 2018, 98, .	3.2	1
92	Spin-Selective Resonant Tunneling Induced by Rashba Spin-Orbit Interaction in Semiconductor Nanowire. Physical Review Applied, 2021, 15, .	3.8	1
93	Infrared Absorption on Shallow Donors in CdF2. Acta Physica Polonica A, 1991, 79, 393-396.	0.5	1
94	Long-Range Lattice Relaxation for Donor Centers in Supercell Method. Materials Science Forum, 1997, 258-263, 1287-1292.	0.3	0
95	<title>RF sputtering deposition of CdTe on GaAs substrate</title>. , 1997, 3179, 25.		0
96	MBE-grown gate-controlled quantum-dot nanostructure and its currentâ€“voltage characteristics. Thin Solid Films, 2000, 367, 97-100.	1.8	0
97	Infrared optical versus transport spectroscopy for few-electron spherical quantum dots. Journal of Physics Condensed Matter, 2000, 12, 6837-6844.	1.8	0
98	Induced-charge distribution in vertical quantum dots. , 2001, 4413, 129.		0
99	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
100	Optical Properties of Bound Polarons in Quantum Wells. , 2000, , 77-80.		0
101	Transport and Capacitance Spectroscopy of Quantum Dots. Acta Physica Polonica A, 2001, 100, 145-163.	0.5	0
102	Electron Pairs and Excitons in Quasi-One-Dimensional Nanostructures. Acta Physica Polonica A, 2003, 103, 567-572.	0.5	0
103	Single Electron Spin Operations Employed for Logical Gates of Quantum Computer. Acta Physica Polonica A, 2009, 116, S-7-S-12.	0.5	0
104	Nanodevice for High Precision Readout of Electron Spin. Acta Physica Polonica A, 2011, 119, 651-653.	0.5	0
105	Anion-Cation Site Dependence of Pressure Coefficients for Donors in GaAs. Acta Physica Polonica A, 1995, 88, 671-674.	0.5	0
106	Metastable One- and Two-Electron donor States in GaAs and CdF2. Acta Physica Polonica A, 1996, 90, 719-722.	0.5	0