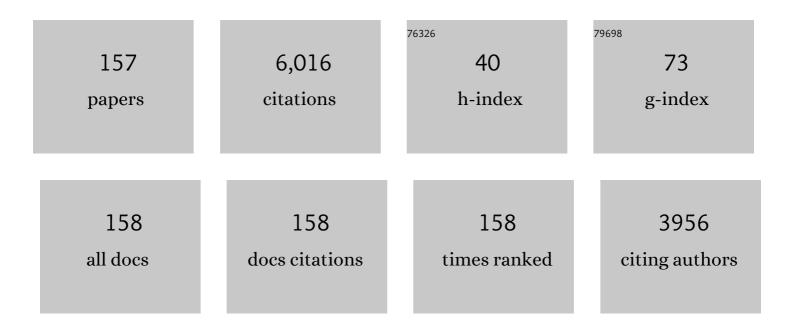
Pawel Hawrylak

List of Publications by Year in descending order

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#	Article	IF	CITATIONS
1	Quantum simulator of extended bipartite Hubbard model with broken sublattice symmetry: Magnetism, correlations, and phase transitions. Physical Review B, 2022, 105, .	3.2	4
2	Systematic study of the emission spectra of nanowire quantum dots. Applied Physics Letters, 2021, 118, .	3.3	9
3	Electronic and magnetic properties of many-electron complexes in charged <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi>In</mml:mi><mml:msub><mml:r mathvariant="normal">P<mml:mrow><mml:mn>1</mml:mn><mml:mo>â^'</mml:mo><mml:mi>xouantum dots in InP nanowires. Physical Review B. 2021. 104.</mml:mi></mml:mrow></mml:r </mml:msub></mml:mrow></mml:math 	ni>Ąsnml:mi> <td>nl:mi><mml:m nmf:mrow><!--</td--></mml:m </td>	nl:mi> <mml:m nmf:mrow><!--</td--></mml:m
4	Gate-controlled quantum dots in monolayer WSe2. Applied Physics Letters, 2021, 119, .	3.3	15
5	Probing negatively charged and neutral excitons in MoS ₂ /hBN and hBN/MoS ₂ /hBN van der Waals heterostructures. Nanotechnology, 2021, 32, 145717.	2.6	17
6	Theory of atomic scale quantum dots in silicon: Dangling bond quantum dots on silicon surface. Solid State Communications, 2020, 305, 113752.	1.9	4
7	Prevalence of oxygen defects in an in-plane anisotropic transition metal dichalcogenide. Physical Review B, 2020, 102, .	3.2	10
8	Accurate and efficient description of interacting carriers in quantum nanostructures by selected configuration interaction and perturbation theory. Physical Review B, 2020, 101, .	3.2	3
9	Atomistic theory of electronic and optical properties of InAsP/InP nanowire quantum dots. Physical Review B, 2020, 101, .	3.2	26
10	Bright trion emission from semiconductor nanoplatelets. Physical Review Materials, 2020, 4, .	2.4	24
11	Uniaxial transition dipole moments in semiconductor quantum rings caused by broken rotational symmetry. Nature Communications, 2019, 10, 3253.	12.8	19
12	Depolarization of Electronic Spin Qubits Confined in Semiconductor Quantum Dots. Physical Review X, 2018, 8, .	8.9	18
13	Ultrafast Carrier Trapping in Thick-Shell Colloidal Quantum Dots. Journal of Physical Chemistry Letters, 2017, 8, 3179-3184.	4.6	16
14	Continuous-wave lasing in colloidal quantum dot solids enabled by facet-selective epitaxy. Nature, 2017, 544, 75-79.	27.8	319
15	Macroscopic Singlet-Triplet Qubit in Synthetic Spin-One Chain in Semiconductor Nanowires. Scientific Reports, 2017, 7, 5529.	3.3	8
16	Atomistic Design of CdSe/CdS Core–Shell Quantum Dots with Suppressed Auger Recombination. Nano Letters, 2016, 16, 6491-6496.	9.1	51
17	Electronic properties and electron–electron interactions in graphene quantum dots. Physica Status Solidi - Rapid Research Letters, 2016, 10, 13-23.	2.4	17
18	Theory of optical properties of graphene quantum dots. Physica Status Solidi - Rapid Research Letters, 2016. 10. 102-110.	2.4	19

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19	Electron-electron interactions, topological phase, and optical properties of a charged artificial benzene ring. Physical Review B, 2015, 92, .	3.2	5
20	Biexciton Binding of Dirac fermions Confined in Colloidal Graphene Quantum Dots. Nano Letters, 2015, 15, 5472-5476.	9.1	15
21	Theory of biexcitons and biexciton-exciton cascade in graphene quantum dots. Physical Review B, 2015, 91, .	3.2	21
22	Electron-electron interaction mediated indirect coupling of electron and magnetic ion or nuclear spins in self-assembled quantum dots. Physical Review B, 2014, 89, .	3.2	2
23	Optical Properties of Graphene Nanostructures. Nanoscience and Technology, 2014, , 145-168.	1.5	1
24	Microscopic theory of the optical properties of colloidal graphene quantum dots. Physical Review B, 2014, 89, .	3.2	55
25	Quantum strain sensor with a topological insulator HgTe quantum dot. Scientific Reports, 2014, 4, 4903.	3.3	13
26	Single-Particle Properties of Graphene Quantum Dots. Nanoscience and Technology, 2014, , 39-90.	1.5	1
27	Electron–Electron Interactions in Graphene Quantum Dots. Nanoscience and Technology, 2014, , 91-110.	1.5	Ο
28	Magnetic Properties of Gated Graphene Nanostructures. Nanoscience and Technology, 2014, , 111-144.	1.5	2
29	Electron-electron interactions and topology in the electronic properties of gated graphene nanoribbon rings in MA¶bius and cylindrical configurations. Physical Review B, 2013, 87, .	3.2	26
30	Geometry, chirality, topology and electron–electron interactions in the quadruple quantum dot molecule. Solid State Communications, 2013, 172, 15-19.	1.9	15
31	Atomistic theory of emission from dark excitons in self-assembled quantum dots. Physical Review B, 2013, 87, .	3.2	53
32	Dynamical magnetic and nuclear polarization in complex spin systems: semi-magnetic Il–VI quantum dots. New Journal of Physics, 2013, 15, 063039.	2.9	0
33	Fine structure of a biexciton in a single quantum dot with a magnetic impurity. Physical Review B, 2013, 87, .	3.2	24
34	Band engineering in nanowires: <i>Ab initio</i> model of band edges modified by (111) biaxial strain in group IIIA-VA semiconductors. Physical Review B, 2012, 86, .	3.2	7
35	Spin Textures in Strongly Coupled Electron Spin and Magnetic or Nuclear Spin Systems in Quantum Dots. Physical Review Letters, 2012, 108, 247203.	7.8	7
36	Theory of electronic properties and quantum spin blockade in a gated linear triple quantum dot with one electron spin each. Physical Review B, 2012, 85, .	3.2	22

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37	Herzberg circuit and Berry's phase in chirality-based coded qubit in a triangular triple quantum dot. Physical Review B, 2012, 86, .	3.2	18
38	Physics of lateral triple quantum-dot molecules with controlled electron numbers. Reports on Progress in Physics, 2012, 75, 114501.	20.1	105
39	Theory of optical properties of II-VI semiconductor quantum dots containing a single magnetic ion in a strong magnetic field. Physical Review B, 2012, 85, .	3.2	9
40	Electronic and optical properties of semiconductor and graphene quantum dots. Frontiers of Physics, 2012, 7, 328-352.	5.0	57
41	Electronic structure of a single MoS2 monolayer. Solid State Communications, 2012, 152, 909-913.	1.9	534
42	Theory of highly excited semiconductor nanostructures including Auger coupling: Exciton-biexciton mixing in CdSe nanocrystals. Physical Review B, 2011, 84, .	3.2	23
43	Absolute deformation potentials and robust <i>ab initio</i> model for band shifts induced by (001) biaxial strain in group IIIA-VA semiconductors. Applied Physics Letters, 2011, 98, .	3.3	11
44	Greenberger-Horne-Zeilinger states in a quantum dot molecule. Physical Review B, 2011, 83, .	3.2	12
45	Theory of fine structure of correlated exciton states in self-assembled semiconductor quantum dots in a magnetic field. Physical Review B, 2011, 84, .	3.2	10
46	Magnetic Ion–Carrier Interactions in Quantum Dots. Springer Series in Materials Science, 2010, , 191-219.	0.6	2
47	Artificial Haldane gap material on a semiconductor chip. Solid State Communications, 2010, 150, 2065-2068.	1.9	9
48	Quantum circuits based on coded qubits encoded in chirality of electron spin complexes in triple quantum dots. Physical Review B, 2010, 82, .	3.2	20
49	Theory of exciton fine structure in semiconductor quantum dots: Quantum dot anisotropy and lateral electric field. Physical Review B, 2010, 81, .	3.2	57
50	Fine structure and size dependence of exciton and biexciton optical spectra in CdSe nanocrystals. Physical Review B, 2010, 82, .	3.2	84
51	<i>Ab initio</i> calculation of band edges modified by (001) biaxial strain in group IIIA–VA and group IIB–VIA semiconductors: Application to quasiparticle energy levels of strained InAs/InP quantum dot. Journal of Applied Physics, 2010, 107, .	2.5	11
52	Engineering photon cascades from multiexciton complexes in a self-assembled quantum dot by a lateral electric field. Physical Review B, 2009, 79, .	3.2	38
53	Charged-impurity-induced dephasing of a voltage-controlled coded qubit based on electron spin in a triple quantum dot. Physical Review B, 2009, 79, .	3.2	20
54	Valence holes as Luttinger spinor based qubits in quantum dots. Physical Review B, 2009, 80, .	3.2	15

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55	A spin-polarized bi-exciton in a semiconductor quantum dot. Journal of Physics Condensed Matter, 2008, 20, 454213.	1.8	2
56	Optical Signatures of Spin Polarization of Carriers in Quantum Dots. Physical Review Letters, 2008, 101, 027205.	7.8	10
57	Gate-controlled spin-spin interactions in lateral quantum dot molecules. Physical Review B, 2008, 78, .	3.2	20
58	Spin transitions induced by a magnetic field in quantum dot molecules. Physical Review B, 2008, 77, .	3.2	3
59	Electron <mml:math <br="" xmlns:mml="http://www.w3.org/1998/Math/MathML">display="inline"><mml:mi>g</mml:mi></mml:math> -factor distribution in self-assembled quantum dots. Physical Review B, 2008, 77, .	3.2	22
60	Linear combination of harmonic orbitals and configuration interaction method for the voltage control of exchange interaction in gated lateral quantum dot networks. Physical Review B, 2007, 76, .	3.2	27
61	Topological Hunds rules and the electronic properties of a triple lateral quantum dot molecule. Physical Review B, 2007, 75, .	3.2	99
62	Tailoring Magnetism in Quantum Dots. Physical Review Letters, 2007, 98, 207203.	7.8	62
63	Electronic states of magnetic quantum dots. New Journal of Physics, 2007, 9, 353-353.	2.9	19
64	Electronic and optical properties of InAs/InP self-assembled quantum dots on patterned substrates. Physica E: Low-Dimensional Systems and Nanostructures, 2006, 32, 1-4.	2.7	7
65	Quantum Hall droplets in coupled lateral quantum dots. Physica E: Low-Dimensional Systems and Nanostructures, 2006, 34, 636-639.	2.7	Ο
66	Theory of Electron Mediated Mn-Mn Interactions in Quantum Dots. Physical Review Letters, 2006, 96, 157201.	7.8	68
67	Spin relaxation in lateral quantum dots: Effects of spin-orbit interaction. Physical Review B, 2006, 73, .	3.2	58
68	Spin polarization in self-assembled quantum dots. Physical Review B, 2006, 73, .	3.2	23
69	Quantum Hall Ferrimagnetism in Lateral Quantum Dot Molecules. Physical Review Letters, 2006, 97, 186802.	7.8	14
70	Theory of a two-level artificial molecule in laterally coupled quantum Hall droplets. Physical Review B, 2006, 73, .	3.2	9
71	Quantum Hall droplet at excitonic filling factorν=2in a self-assembled quantum dot. Physical Review B, 2006, 73, .	3.2	2
72	Real space Hartree-Fock configuration interaction method for complex lateral quantum dot molecules. Journal of Chemical Physics, 2006, 125, 034707.	3.0	17

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73	Microscopic approach to many-exciton complexes in self-assembled InGaAs/GaAs quantum dots. Physica E: Low-Dimensional Systems and Nanostructures, 2005, 26, 267-270.	2.7	0
74	Voltage-controlled coded qubit based on electron spin. Solid State Communications, 2005, 136, 508-512.	1.9	55
75	Atomistic theory of electronic and optical properties ofInAsâ^•InPself-assembled quantum dots on patterned substrates. Physical Review B, 2005, 72, .	3.2	33
76	Multiband theory of multi-exciton complexes in self-assembled quantum dots. Physical Review B, 2005, 71, .	3.2	98
77	Magnetic Exchange Interactions in Quantum Dots Containing Electrons and Magnetic Ions. Physical Review Letters, 2005, 95, 217206.	7.8	94
78	Pairing of Spin Excitations in Lateral Quantum Dots. Physical Review Letters, 2004, 93, 206806.	7.8	22
79	Spin–orbit interaction and spin relaxation in a lateral quantum dot. Physica E: Low-Dimensional Systems and Nanostructures, 2004, 22, 414-417.	2.7	14
80	Configuration interaction method for Fock–Darwin states. Solid State Communications, 2004, 130, 115-120.	1.9	25
81	Hidden symmetry and correlated states of electrons and holes in quantum dots. Solid State Communications, 2003, 127, 793-798.	1.9	6
82	Effective Bloch equations for strongly driven modulation-doped quantum wells. Physical Review B, 2003, 68, .	3.2	30
83	Theory of the spin-singlet filling factorî $\frac{1}{2}$ =2quantum Hall droplet. Physical Review B, 2003, 67, .	3.2	25
84	Theory of excitonic artificial atoms: InGaAs/GaAs quantum dots in strong magnetic fields. Physical Review B, 2003, 68, .	3.2	30
85	Spin Effects in Quantum Hall Droplets. , 2003, , 211-222.		0
86	Electronic Correlations in Semiconductor Quantum Dots. , 2002, , 497-501.		0
87	Excitonic artificial atoms in a quantum dot. Physica E: Low-Dimensional Systems and Nanostructures, 2001, 9, 94-98.	2.7	4
88	The role of finite hole mass in the negatively charged exciton in two dimensions. Physica E: Low-Dimensional Systems and Nanostructures, 2001, 9, 716-722.	2.7	7
89	Electrons and excitons in quantum dots. Physica E: Low-Dimensional Systems and Nanostructures, 2001, 11, 53-58.	2.7	2
90	Electronic structure of vertically stacked self-assembled quantum disks. Physical Review B, 2001, 63, .	3.2	104

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91	Energy spectra and photoluminescence of charged magneto-excitons. Physica E: Low-Dimensional Systems and Nanostructures, 2000, 8, 254-259.	2.7	14
92	Effects of electron-electron interactions on excitonic absorption in charged self-assembled quantum dots. Physical Review B, 2000, 61, 13753-13762.	3.2	22
93	Charged excitons in a dilute two-dimensional electron gas in a high magnetic field. Physical Review B, 2000, 62, 4630-4637.	3.2	118
94	Optical Properties of Quantum Dots. , 2000, , 319-336.		5
95	Excitonic ions and pseudopotentials in two-dimensional systems: Evidence for quantum Hall states of anXâ^'gas. Physical Review B, 1999, 60, 11661-11665.	3.2	34
96	Collapse of the Zeeman gap in quantum dots due to electronic correlations. Physical Review B, 1999, 59, 2801-2806.	3.2	54
97	Excitonic artificial atoms: Engineering optical properties of quantum dots. Physical Review B, 1999, 60, 5597-5608.	3.2	187
98	Theory of luminescence from highly excited self-assembled quantum dots. Physica E: Low-Dimensional Systems and Nanostructures, 1998, 2, 603-608.	2.7	14
99	Multi-charged acceptor centers in p-doped Si/Si1â^'xGex/Si quantum wells in the presence of a magnetic field. Physica E: Low-Dimensional Systems and Nanostructures, 1998, 2, 785-788.	2.7	5
100	The two-dimensional Dâ^' complex in intense AC and strong magnetic fields. Physica E: Low-Dimensional Systems and Nanostructures, 1998, 3, 198-204.	2.7	6
101	Electron correlations in quasi-2D structures at high magnetic fields in the presence of embedded donor impurities. Physica B: Condensed Matter, 1998, 256-258, 431-440.	2.7	0
102	Incompressible states of negatively charged magneto-excitons. Physica B: Condensed Matter, 1998, 256-258, 490-493.	2.7	18
103	Donor Impurities as a Probe of Electron Correlations in a Two-Dimensional Electron Gas in High Magnetic Fields. Physical Review Letters, 1998, 81, 3499-3502.	7.8	26
104	Optically detected oscillations of screening by a two-dimensional electron gas in a magnetic field. Physical Review B, 1997, 55, 7685-7689.	3.2	16
105	Spectral functions of quantum dots in the integer and fractional quantum Hall regime. Physical Review B, 1997, 56, 13227-13234.	3.2	51
106	Interacting valence holes in p-type SiGe quantum disks in a magnetic field. Physical Review B, 1997, 55, 15694-15700.	3.2	35
107	Theory of photoluminescence from an interacting two-dimensional electron gas in strong magnetic fields. Physical Review B, 1997, 56, 12386-12394.	3.2	55
108	Theory of photoluminescence from modulation-doped self-assembled quantum dots in a magnetic field. Physical Review B, 1997, 55, 13066-13071.	3.2	115

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109	Coupled quantum dots as quantum exclusive-OR gate. Superlattices and Microstructures, 1997, 22, 431-436.	3.1	63
110	Electronic structure and magneto-optics of self-assembled quantum dots. Physical Review B, 1996, 54, 5604-5608.	3.2	315
111	Charging and infrared spectroscopy of self-assembled quantum dots in a magnetic field. Physical Review B, 1996, 53, 10841-10845.	3.2	130
112	Magneto-excitons in droplets of a chiral Luttinger liquid formed in quantum dots in a magnetic field. Solid State Communications, 1996, 98, 847-851.	1.9	7
113	Exciton-exciton interactions in highly excited quantum dots in a magnetic field. Solid State Communications, 1996, 100, 487-491.	1.9	56
114	Interband transitions inAlxGa1â^'xAs/AlAs quantum-well structures. Physical Review B, 1996, 53, 12912-12916.	3.2	0
115	Magnetoexcitons and correlated electrons in quantum dots in a magnetic field. Physical Review B, 1996, 54, 11397-11409.	3.2	40
116	Electronic structure and optical properties of self-assembled quantum dots. Semiconductor Science and Technology, 1996, 11, 1516-1520.	2.0	37
117	Quantum single electron transistor. , 1996, , 59-74.		1
118	Raman scattering by correlated electrons in quantum dots in a magnetic field. Solid State Communications, 1995, 93, 915-920.	1.9	21
119	Electronic structure of artificial atoms in intense AC terahertz and strong magnetic fields. Solid State Communications, 1995, 93, 909-914.	1.9	12
120	Artificial impurity in interacting electron droplets in a strong magnetic field. Physical Review B, 1995, 51, 17708-17712.	3.2	14
121	Negatively charged magnetoexcitons in quantum dots. Physical Review B, 1995, 51, 10880-10885.	3.2	153
122	Correlated few-electron states in vertical double-quantum-dot systems. Physical Review B, 1995, 51, 1769-1777.	3.2	121
123	Many-electron effects on donor states in a two-dimensional electron gas in a strong magnetic field. Physical Review Letters, 1994, 72, 2943-2946.	7.8	29
124	Intrinsic dephasing times of photoexcited electron–valence-hole pairs near the Fermi edge of a degenerate electron gas in quantum wells. Physical Review B, 1994, 49, 13624-13628.	3.2	3
125	Hydrogenic impurity in a parabolic quantum wire in a magnetic field: Quantum chaos and optical properties. Physical Review B, 1994, 49, 8174-8177.	3.2	13
126	Magneto-optics of interacting electrons in quantum dots. Surface Science, 1994, 305, 597-600.	1.9	1

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127	Far infrared absorption by screened Dâ^' states in quantum wells in a strong magnetic field. Solid State Communications, 1993, 88, 475-479.	1.9	41
128	Magnetoluminescence from correlated electrons in quantum dots. Physical Review Letters, 1993, 70, 485-488.	7.8	137
129	Single-electron capacitance spectroscopy of few-electron artificial atoms in a magnetic field: Theory and experiment. Physical Review Letters, 1993, 71, 3347-3350.	7.8	223
130	Magneto-optics of acceptor-doped GaAs/Ga1â^'xAlxAs heterostructures in the quantum Hall regime: Resonant magnetoexcitons and many-electron effects. Physical Review B, 1992, 46, 15193-15199.	3.2	31
131	Many-electron effects in acceptor-related radiative recombination of quasi-two-dimensional electrons. Physical Review B, 1992, 45, 4237-4240.	3.2	27
132	Excitonic effects in optical spectra of a quasi-one-dimensional electron gas. Solid State Communications, 1992, 81, 525-527.	1.9	24
133	Nonlinear polariton excitations in quantum dot arrays. Physics Letters, Section A: General, Atomic and Solid State Physics, 1992, 165, 148-152.	2.1	1
134	Tunneling in a periodic array of semimagnetic quantum dots. Physical Review B, 1991, 44, 13082-13084.	3.2	14
135	Resonant magnetoexcitons and the Fermi-edge singularity in a magnetic field. Physical Review B, 1991, 44, 11236-11240.	3.2	24
136	Optical properties of a two-dimensional electron gas: Evolution of spectra from excitons to Fermi-edge singularities. Physical Review B, 1991, 44, 3821-3828.	3.2	176
137	Coupling of excitons with excitations of the Fermi sea in asymmetric quantum wells. Physical Review B, 1991, 44, 6262-6265.	3.2	55
138	Nonlinear Response of Virtual Excitations in Semiconductor Superlattices. NATO ASI Series Series B: Physics, 1991, , 479-490.	0.2	1
139	Optical hole in a two-dimensional electron gas. Physical Review B, 1990, 42, 8986-8990.	3.2	44
140	Wave propagation in a nonlinear periodic medium. Physical Review B, 1990, 41, 5783-5791.	3.2	17
141	Nonlinear optical transmission through a multiple quantum well system. Surface Science, 1990, 228, 144-146.	1.9	0
142	Electron-hole liquids and band-gap renormalization in short-period semiconductor superlattices. Physical Review B, 1989, 39, 6264-6267.	3.2	33
143	Self-induced gaps and optical bistability in semiconductor superlattices. Physical Review B, 1989, 40, 8013-8016.	3.2	11
144	Many-body effects in a layered electron gas. Physical Review B, 1988, 37, 10187-10194.	3.2	79

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145	Effective mass and lifetime of electrons in a layered electron gas. Physical Review Letters, 1987, 59, 485-488.	7.8	50
146	Plasmon and electron-hole-pair damping of excited vibrational and electronic states in quasi-two-dimensional electron systems. Physical Review B, 1987, 35, 3818-3822.	3.2	5
147	Critical plasmons of a Fibonacci semiconductor superlattice: Spectrum and optical properties. Physical Review B, 1987, 36, 6501-6507.	3.2	22
148	Inelastic electron scattering by collective charge density excitations at the surface of a semiconductor superlattice. Surface Science, 1986, 170, 501-505.	1.9	3
149	Amplification of bulk and surface plasmons in semiconductor superlattices. Applied Physics Letters, 1986, 49, 280-282.	3.3	27
150	Screened Coulombic impurity bound states in semi-infinite multiple-quantum-well systems. Physical Review B, 1986, 33, 8264-8268.	3.2	11
151	Critical Plasmons of a Quasiperiodic Semiconductor Superlattice. Physical Review Letters, 1986, 57, 380-383.	7.8	77
152	Optical properties of polytype semiconductor superlattices: Bulk and surface plasmons, Raman and electron-energy-loss spectra, and finite-size effects. Physical Review B, 1986, 34, 5368-5372.	3.2	23
153	Inelastic light scattering by collective charge-density excitations in semi-infinite semiconductor superlattices. Physical Review B, 1985, 32, 5169-5176.	3.2	64
154	Inelastic electron scattering by collective charge-density excitations at the surface of a semiconductor superlattice. Physical Review B, 1985, 32, 4272-4274.	3.2	34
155	Intersubband collective excitations at the surface of a semiconductor superlattice. Physical Review B, 1985, 31, 7855-7858.	3.2	37
156	Cyclotron resonance in the paramagnetic and ferromagnetic phase of a two-dimensional electron gas with even-integer filling factors. Physical Review B, 1985, 31, 6592-6596.	3.2	13
157	Coded Qubit Based on Electron Spin. , 0, , 3-32.		2