

Tapash Chakraborty

List of Publications by Year in descending order

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160
papers

6,718
citations

87843

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163
all docs

163
docs citations

163
times ranked

3638
citing authors

#	ARTICLE	IF	CITATIONS
1	Magnetic field controlled topological transitions of the spin field in quantum rings with spin orbit couplings. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , 2021, 128, 114545.	1.3	4
2	Isotropic all-electric spin analyzer based on a quantum ring with spin-orbit couplings. <i>Applied Physics Letters</i> , 2021, 118, .	1.5	1
3	Stability of even-denominator fractional quantum Hall states in systems with strong Landau-level mixing. <i>Physical Review B</i> , 2021, 104, .	1.1	4
4	40 years of the quantum Hall effect. <i>Nature Reviews Physics</i> , 2020, 2, 397-401.	11.9	84
5	Seeking Maxwell's Demon in a non-reciprocal quantum ring. <i>Scientific Reports</i> , 2019, 9, 9244.	1.6	4
6	Tuning the topological features of quantum-dot hydrogen and helium by a magnetic field. <i>Physical Review B</i> , 2019, 100, .	1.1	5
7	Unique Spin Vortices and Topological Charges in Quantum Dots with Spin-orbit Couplings. <i>Scientific Reports</i> , 2019, 9, 672.	1.6	9
8	Effective tuning of electron charge and spin distribution in a dot-ring nanostructure at the ZnO interface. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , 2018, 99, 63-66.	1.3	3
9	Controllable continuous evolution of electronic states in a single quantum ring. <i>Physical Review B</i> , 2018, 97, .	1.1	34
10	Electronic, Magnetic and Optical Properties of Quantum Rings in Novel Systems. <i>Nanoscience and Technology</i> , 2018, , 283-326.	1.5	1
11	Interaction-driven distinctive electronic states of artificial atoms at the ZnO interface. <i>Journal of Physics Condensed Matter</i> , 2017, 29, 215301.	0.7	12
12	Irregular Aharonov-Bohm effect for interacting electrons in a ZnO quantum ring. <i>Journal of Physics Condensed Matter</i> , 2017, 29, 075605.	0.7	7
13	Pfaffian state in an electron gas with small Landau level gaps. <i>Physical Review B</i> , 2017, 96, .	1.1	15
14	Excitation gap of fractal quantum hall states in graphene. <i>Journal of Physics Condensed Matter</i> , 2016, 28, 015801.	0.7	3
15	Tilt-induced phase transitions in even-denominator fractional quantum Hall states at the ZnO interface. <i>Physical Review B</i> , 2016, 94, .	1.1	9
16	Dynamical polarization and plasmons in a two-dimensional system with merging Dirac points. <i>Physical Review B</i> , 2016, 93, .	1.1	27
17	Missing fractional quantum Hall states in ZnO. <i>Physical Review B</i> , 2016, 93, .	1.1	21
18	Signatures of Majorana fermions in an elliptical quantum ring. <i>Physical Review B</i> , 2016, 93, .	1.1	17

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19	Magnetization of interacting electrons in anisotropic quantum dots with Rashba spin-orbit interaction. Physica E: Low-Dimensional Systems and Nanostructures, 2016, 81, 334-338.	1.3	18
20	Fractal butterflies in buckled graphenelike materials. Physical Review B, 2015, 91, .	1.1	9
21	Long-range Coulomb interaction and Majorana fermions. Physical Review B, 2015, 92, .	1.1	11
22	Quantum Hall ferromagnets and transport properties of buckled Dirac materials. Physical Review B, 2015, 92, .	1.1	3
23	Aspects of anisotropic fractional quantum Hall effect in phosphorene. Physical Review B, 2015, 92, .	1.1	20
24	Fractal butterflies of chiral fermions in bilayer graphene: Phase transitions and emergent properties. Physical Review B, 2015, 92, .	1.1	2
25	Spin transitions in graphene butterflies at an integer filling factor. Physical Review B, 2015, 91, .	1.1	6
26	Fractal butterflies of Dirac fermions in monolayer and bilayer graphene. IET Circuits, Devices and Systems, 2015, 9, 19-29.	0.9	5
27	Fractional quantum Hall effect in Hofstadter butterflies of Dirac fermions. Journal of Physics Condensed Matter, 2015, 27, 185301.	0.7	7
28	Tuning of exciton states in a magnetic quantum ring. Physica E: Low-Dimensional Systems and Nanostructures, 2015, 66, 157-161.	1.3	9
29	Tunability of the fractional quantum Hall states in buckled Dirac materials. Physical Review B, 2014, 90, .	1.1	11
30	Tunable spin-selective transport through DNA with mismatched base pairs. Journal of Physics Condensed Matter, 2014, 26, 475302.	0.7	2
31	Aspects of the Fractional Quantum Hall Effect in Graphene. Nanoscience and Technology, 2014, , 251-300.	1.5	1
32	Effect of the spin-orbit coupling on the Raman spectra of a GaAs quantum ring with few electrons. Solid State Communications, 2014, 181, 34-40.	0.9	17
33	Gap Structure of the Hofstadter System of Interacting Dirac Fermions in Graphene. Physical Review Letters, 2014, 112, 176401.	2.9	26
34	Incompressible states of dirac fermions in graphene with anisotropic interactions. Solid State Communications, 2014, 177, 128-131.	0.9	18
35	Traits and characteristics of interacting Dirac fermions in monolayer and bilayer graphene. Solid State Communications, 2013, 175-176, 123-131.	0.9	24
36	Superintense highly anisotropic optical transitions in anisotropic quantum dots. Physical Review B, 2013, 88, .	1.1	7

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37	Apalkov and Chakraborty Reply: Physical Review Letters, 2012, 108, .	2.9	0
38	Electrically tunable charge and spin transitions in Landau levels of interacting Dirac fermions in trilayer graphene. Physical Review B, 2012, 86, .	1.1	21
39	Strong enhancement of Rashba spin-orbit coupling with increasing anisotropy in the Fock-Darwin states of a quantum dot. Physical Review B, 2012, 85, .	1.1	22
40	The fractional quantum Hall effect of tachyons in a topological insulator junction. Europhysics Letters, 2012, 100, 67008.	0.7	4
41	Spin-orbit interaction induced singlet-triplet resonant Raman transitions in quantum dot helium. Europhysics Letters, 2012, 99, 17009.	0.7	6
42	Superluminal tachyon-like excitations of Dirac fermions in a topological insulator junction. Europhysics Letters, 2012, 100, 17002.	0.7	13
43	On the Nature of Interlayer Interactions in a System of Two Graphene Fragments. Journal of Physical Chemistry C, 2011, 115, 24666-24673.	1.5	31
44	Interacting Dirac Fermions on a Topological Insulator in a Magnetic Field. Physical Review Letters, 2011, 107, 186801.	2.9	11
45	Optical transitions at commensurate angles in a misoriented bilayer graphene in an external magnetic field. Physical Review B, 2011, 84, .	1.1	11
46	Irradiated bilayer graphene. Nanotechnology, 2011, 22, 015203.	1.3	37
47	Zippering and unzipping of nanoscale carbon structures. Physical Review B, 2011, 83, .	1.1	9
48	Interlayer repulsion and decoupling effects in stacked turbostratic graphene flakes. Physical Review B, 2011, 84, .	1.1	33
49	Stable Pfaffian State in Bilayer Graphene. Physical Review Letters, 2011, 107, 186803.	2.9	62
50	Properties of graphene: a theoretical perspective. Advances in Physics, 2010, 59, 261-482.	35.9	970
51	Quantum transport anomalies in DNA containing mismatches. Nanotechnology, 2010, 21, 485101.	1.3	5
52	Electric screening and plasmon dispersion in biased bilayer graphene. , 2010, , .		0
53	Coulomb screening and collective excitations in biased bilayer graphene. Physical Review B, 2010, 81, .	1.1	38
54	Controllable Driven Phase Transitions in Fractional Quantum Hall States in Bilayer Graphene. Physical Review Letters, 2010, 105, 036801.	2.9	49

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55	Electrical current through DNA containing mismatched base pairs. <i>Nanotechnology</i> , 2010, 21, 245101.	1.3	12
56	Sustained ferromagnetism induced by H-vacancies in graphane. <i>Nanotechnology</i> , 2010, 21, 355201.	1.3	49
57	Influence of adsorbates on the electronic and magnetic properties of graphane with H-vacancy defects. <i>Physical Review B</i> , 2010, 82, .	1.1	21
58	Electron correlations in bilayer graphene. <i>Physical Review B</i> , 2010, 82, .	1.1	3
59	Impurity-induced spin gap asymmetry in nanoscale graphene. <i>Physical Review B</i> , 2009, 80, .	1.1	16
60	Electronic compressibility of graphene: The case of vanishing electron correlations and the role of chirality. <i>Physical Review B</i> , 2009, 80, .	1.1	22
61	Long-Range Coulomb Interaction in Bilayer Graphene. <i>Physical Review Letters</i> , 2009, 102, 056807.	2.9	50
62	Tunable band gap and magnetic ordering by adsorption of molecules on graphene. <i>Physical Review B</i> , 2009, 80, .	1.1	133
63	Generation of valley polarized current in bilayer graphene. <i>Applied Physics Letters</i> , 2009, 95, .	1.5	109
64	Tunable ground-state degeneracies in double quantum dots. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , 2008, 40, 2834-2838.	1.3	2
65	Polaron tunneling dynamics of a linear polymer of nucleotides. <i>Journal of Physics Condensed Matter</i> , 2008, 20, 075104.	0.7	12
66	Interplay between valley polarization and electron-electron interaction in a graphene ring. <i>Physical Review B</i> , 2008, 78, .	1.1	64
67	How the Surrounding Water Changes the Electronic and Magnetic Properties of DNA. <i>Journal of Physical Chemistry B</i> , 2008, 112, 14083-14089.	1.2	20
68	Water induced weakly bound electrons in DNA. <i>Journal of Chemical Physics</i> , 2008, 128, 235101.	1.2	8
69	Spin-orbit effects on resonant tunneling conductance through a double-quantum-dot system. <i>Journal of Physics Condensed Matter</i> , 2008, 20, 135221.	0.7	3
70	Influence of correlated electrons on the paramagnetism of DNA. <i>Physical Review B</i> , 2008, 78, .	1.1	8
71	Some unique magnetic properties of nanoscale quantum rings subjected to a Rashba spin-orbit interaction. <i>Physical Review B</i> , 2008, 78, .	1.1	14
72	Spin-orbit coupling and tunneling current in a parabolic quantum dot. <i>Physical Review B</i> , 2007, 75, .	1.1	7

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73	Coulomb screening and collective excitations in a graphene bilayer. <i>Physical Review B</i> , 2007, 75, .	1.1	97
74	Collective excitations of Dirac electrons in a graphene layer with spin-orbit interactions. <i>Physical Review B</i> , 2007, 75, .	1.1	92
75	COLLECTIVE EXCITATIONS OF DIRAC ELECTRONS IN GRAPHENE. <i>International Journal of Modern Physics B</i> , 2007, 21, 1165-1179.	1.0	18
76	Fock-Darwin States of Dirac Electrons in Graphene-Based Artificial Atoms. <i>Physical Review Letters</i> , 2007, 98, 186803.	2.9	121
77	Influence of Solvent on the Energetics of Hole Transfer in DNA. <i>Journal of Physical Chemistry B</i> , 2007, 111, 13465-13471.	1.2	9
78	Energetics of the hole transfer in DNA duplex oligomers. <i>Chemical Physics Letters</i> , 2007, 446, 159-164.	1.2	13
79	Physics Aspects of Charge Migration Through DNA. <i>Nanoscience and Technology</i> , 2007, , 77-119.	1.5	4
80	Energy levels and magneto-optical transitions in parabolic quantum dots with spin-orbit coupling. <i>Physical Review B</i> , 2006, 73, .	1.1	90
81	Fractional Quantum Hall States of Dirac Electrons in Graphene. <i>Physical Review Letters</i> , 2006, 97, 126801.	2.9	146
82	Charge Transfer via a Two-Strand Superexchange Bridge in DNA. <i>Physical Review Letters</i> , 2006, 97, 106602.	2.9	56
83	Electronic properties of guanine traps in DNA. <i>Physical Review B</i> , 2006, 73, .	1.1	8
84	Spin transitions in an incompressible liquid Coulomb-coupled to a quantum dot. <i>Physical Review B</i> , 2006, 73, .	1.1	2
85	Breaking of Larmor's theorem in quantum Hall states with spin-orbit coupling. <i>Physical Review B</i> , 2006, 73, .	1.1	11
86	Spin injection into a short DNA chain. <i>Physical Review B</i> , 2006, 74, .	1.1	16
87	Spin-orbit interaction in a quantum cascade transition. <i>Physical Review B</i> , 2006, 73, .	1.1	0
88	Spin hot spots in vertically coupled few-electron isolated quantum dots. <i>Physical Review B</i> , 2006, 74, .	1.1	7
89	Tuning of the Gap in a Laughlin-Bloch-Rashba Incompressible Liquid. <i>Physical Review Letters</i> , 2005, 94, .	2.9	9
90	Optical Signatures of Spin-Orbit Interaction Effects in a Parabolic Quantum Dot. <i>Physical Review Letters</i> , 2005, 95, 136603.	2.9	85

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91	Electron dynamics in a DNA molecule. Physical Review B, 2005, 71, .	1.1	26
92	Transverse tunneling current through guanine traps in DNA. Physical Review B, 2005, 72, .	1.1	12
93	Electron correlations in a quantum dot with Bychkov-Rashba coupling. Physical Review B, 2005, 71, .	1.1	44
94	Magnetic field effects on intersubband transitions in a quantum nanostructure. Physica E: Low-Dimensional Systems and Nanostructures, 2003, 16, 253-258.	1.3	4
95	Quantum cascade transitions in nanostructures. Advances in Physics, 2003, 52, 455-521.	35.9	48
96	Influence of dimensionality on the emission spectra of nanostructures. Applied Physics Letters, 2003, 83, 3671-3673.	1.5	3
97	Optical Probing of a Fractionally Charged Quasihole in an Incompressible Liquid. Physical Review Letters, 2003, 91, 116403.	2.9	26
98	Optical properties of a quantum-dot cascade structure. Physica E: Low-Dimensional Systems and Nanostructures, 2002, 14, 294-298.	1.3	10
99	Interaction of a quantum dot with an incompressible two-dimensional electron gas. Physica E: Low-Dimensional Systems and Nanostructures, 2002, 14, 289-293.	1.3	5
100	Influence of disorder and a parallel magnetic field on a quantum cascade laser. Applied Physics Letters, 2001, 78, 697-699.	1.5	6
101	Luminescence spectra of a quantum-dot cascade laser. Applied Physics Letters, 2001, 78, 1820-1822.	1.5	18
102	Magnetic field induced luminescence spectra in a quantum cascade laser. Applied Physics Letters, 2001, 78, 1973-1975.	1.5	5
103	Electron spin transitions in quantum Hall systems. Advances in Physics, 2000, 49, 959-1014.	35.9	55
104	Interacting electrons in a narrow quantum hall system. , 1999, , 397-409.		0
105	Quantum dots. , 1999, , 7-108.		149
106	Temperature Dependence of Spin Polarizations at Higher Landau Levels. Physical Review Letters, 1999, 83, 5559-5562.	2.9	13
107	Impurity effects and spin polarizations in a narrow quantum Hall system. Physical Review B, 1998, 58, 9890-9893.	1.1	3
108	Specific heat of quantum Hall systems. Physical Review B, 1997, 55, R1954-R1957.	1.1	16

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109	Effects of scattering centers on the energy spectrum of a quantum dot. Physical Review B, 1996, 53, 6971-6974.	1.1	59
110	Thermodynamics and Spin Polarizations of the Fractional Quantum Hall States. Physical Review Letters, 1996, 76, 4018-4021.	2.9	39
111	Electron correlations in antidot arrays in a magnetic field. Physical Review B, 1996, 53, 4664-4667.	1.1	4
112	Electron correlations in quantum ring and dot systems. Physica B: Condensed Matter, 1995, 212, 256-260.	1.3	13
113	Correlations in coupled electron and hole layers of finite thickness. Physical Review B, 1995, 52, 7845-7848.	1.1	20
114	Persistent currents in a quantum ring: Effects of impurities and interactions. Physical Review B, 1995, 52, 1932-1935.	1.1	52
115	Fractional Quantum Hall Effect: Introduction. Springer Series in Solid-state Sciences, 1995, , 32-38.	0.3	1
116	The Quantum Hall Effects. Springer Series in Solid-state Sciences, 1995, , .	0.3	272
117	Ground State. Springer Series in Solid-state Sciences, 1995, , 39-86.	0.3	0
118	Elementary Excitations. Springer Series in Solid-state Sciences, 1995, , 87-161.	0.3	0
119	Open Problems and New Directions. Springer Series in Solid-state Sciences, 1995, , 247-248.	0.3	0
120	Variational calculations for semiconductor superlattices and multilayer systems. Physical Review B, 1994, 49, 8277-8289.	1.1	9
121	Electron-electron interaction and the persistent current in a quantum ring. Physical Review B, 1994, 50, 8460-8468.	1.1	265
122	Electronic properties of anisotropic quantum dots in a magnetic field. Physical Review B, 1994, 49, 8163-8168.	1.1	109
123	Interacting-electron states and the persistent current in a quantum ring. Solid State Communications, 1993, 87, 809-812.	0.9	50
124	Collective excitations, pressure, and compressibility in multilayer systems. Physical Review B, 1993, 48, 1665-1668.	1.1	4
125	ELECTRONS AND EXCITONS IN A QUANTUM DOT IN MAGNETIC FIELDS. , 1992, , 347-353.		0
126	Excitons in a parabolic quantum dot in magnetic fields. Physical Review B, 1992, 45, 5980-5985.	1.1	149

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127	Effect of electron-electron interactions on the magnetization of quantum dots. Physical Review B, 1992, 45, 1947-1950.	1.1	231
128	The Quantum Hall Effect. , 1992, , 977-1037.		1
129	Recombination radiation from a two-dimensional electron system in a strong magnetic field: Spin dependence. Physical Review B, 1991, 44, 13078-13081.	1.1	4
130	Magneto-optical transitions and level crossings in a Coulomb-coupled pair of quantum dots. Physical Review B, 1991, 43, 14289-14292.	1.1	53
131	Quantum dots in a magnetic field: Role of electron-electron interactions. Physical Review Letters, 1990, 65, 108-111.	2.9	980
132	Collective excitations in the fractional quantum Hall effect in an alternating-density superlattice. Physical Review B, 1990, 41, 5396-5399.	1.1	8
133	Nature of the long-range order in the quantum Hall effect regime. Physical Review B, 1990, 41, 7872-7875.	1.1	5
134	Subband-Landau-level coupling in the fractional quantum Hall effect in tilted magnetic fields. Physical Review B, 1990, 41, 10202-10205.	1.1	24
135	Spin-reversed excitations in the fractional quantum Hall effect. Physical Review B, 1990, 41, 10862-10865.	1.1	23
136	Spin-reversed ground state and energy gap in the fractional quantum Hall effect. Surface Science, 1990, 229, 16-20.	0.8	40
137	Variational calculations for the Sutherland model. Physical Review B, 1989, 39, 869-872.	1.1	3
138	Fractional quantum Hall effect in tilted magnetic fields. Physical Review B, 1989, 39, 7971-7973.	1.1	42
139	Fractional quantum hall effect at even-denominator filling fractions. Physical Review B, 1988, 38, 10097-10100.	1.1	18
140	Excitations in the Fractional Quantum Hall Effect at $\hat{\nu}=1/2$: Layered Electron Systems. , 1988, , 113-118.		2
141	Ground State. Springer Series in Solid-state Sciences, 1988, , 10-38.	0.3	0
142	Elementary Excitations. Springer Series in Solid-state Sciences, 1988, , 39-82.	0.3	0
143	Fractional Quantum Hall Effect at Half-Filled Landau Level in a Multiple-Layer Electron System. Physical Review Letters, 1987, 59, 2784-2787.	2.9	117
144	Spin-reversed Quasiparticles in the Fractional Quantum Hall Effect - Finite System Calculations. Physica Scripta, 1986, T14, 58-61.	1.2	14

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145	Spin-reversed quasiparticles in the fractional quantum Hall effect: Many-body approach. Physical Review B, 1986, 34, 2926-2928.	1.1	21
146	Spin-1 quasiparticle and spin polarization of the ground state in the fractional quantum Hall effect. Physical Review B, 1986, 34, 7076-7079.	1.1	30
147	Elementary excitations in the fractional quantum Hall effect and the spin-reversed quasiparticles. Physical Review Letters, 1986, 57, 130-133.	2.9	109
148	Elementary excitations in the fractional quantum Hall effect. Physical Review B, 1985, 31, 4026-4028.	1.1	43
149	Ground-state correlations in the layered electron-hole liquid. Physical Review B, 1984, 29, 6640-6644.	1.1	11
150	Role of reversed spins in the correlated ground state for the fractional quantum Hall effect. Physical Review B, 1984, 29, 7032-7033.	1.1	103
151	Theory of two-charged-component Fermi fluids. Physical Review B, 1984, 29, 3975-3981.	1.1	9
152	Ground state of two-dimensional electrons and the reversed spins in the fractional quantum Hall effect. Physical Review B, 1984, 30, 7320-7322.	1.1	106
153	Correlations in the layered electron-hole liquid. , 1984, , 244-250.		0
154	Electron-hole correlations in Si under uniaxial stress. Solid State Communications, 1983, 45, 195-198.	0.9	4
155	Structure of liquid metallic hydrogen as a two-component Fermi fluid at $T=0$. Physical Review B, 1983, 27, 3061-3064.	1.1	25
156	Chakraborty and Pietiläinen Respond. Physical Review Letters, 1983, 50, 2037-2037.	2.9	1
157	Structure of binary boson mixtures at $T=0K$. Physical Review B, 1982, 26, 6131-6140.	1.1	21
158	Variational theory of binary boson mixture at $T=0K$. Physical Review B, 1982, 25, 3177-3180.	1.1	34
159	Variational Approach to the Ground State of the Electron-Hole Liquid. Physical Review Letters, 1982, 49, 1034-1037.	2.9	24
160	Some ground-state properties of a binary boson mixture. Journal of Low Temperature Physics, 1982, 48, 151-157.	0.6	6