

Esa Räsänen

List of Publications by Year in descending order

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134
papers

2,201
citations

236925

25
h-index

289244

40
g-index

137
all docs

137
docs citations

137
times ranked

1660
citing authors

#	ARTICLE	IF	CITATIONS
1	Density functional approach to the band gaps of finite and periodic two-dimensional systems. Physical Review B, 2021, 104, .	3.2	2
2	Propagation of waves in high Brillouin zones: Chaotic branched flow and stable superwires. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	7.1	5
3	Towards Accurate and Model-Free QT Correction. , 2021, , .		0
4	Dynamical heart beat correlations during running. Scientific Reports, 2020, 10, 13627.	3.3	8
5	Effects of scarring on quantum chaos in disordered quantum wells. Journal of Physics Condensed Matter, 2019, 31, 105301.	1.8	13
6	Energy-dependent diffusion in a soft periodic Lorentz gas. European Physical Journal: Special Topics, 2019, 228, 143-160.	2.6	4
7	Scaling and correlation properties of RR and QT intervals at the cellular level. Scientific Reports, 2019, 9, 3651.	3.3	7
8	Fundamental gaps of quantum dots on the cheap. Physical Review B, 2019, 99, .	3.2	5
9	Normal and Anomalous Diffusion in Soft Lorentz Gases. Physical Review Letters, 2019, 122, 064102.	7.8	13
10	Quantum Lissajous Scars. Physical Review Letters, 2019, 123, 214101.	7.8	22
11	Information transfer in QT-RR dynamics: Application to QT-correction. Scientific Reports, 2018, 8, 14992.	3.3	6
12	Control of Rydberg-state population with realistic femtosecond laser pulses. Physical Review A, 2018, 98, .	2.5	2
13	Optimal control of photoelectron emission by realistic waveforms. Journal of Modern Optics, 2017, 64, 1784-1792.	1.3	1
14	Universal scaling relations for the energies of many-electron Hooke atoms. Physical Review A, 2017, 95, .	2.5	2
15	Controllable quantum scars in semiconductor quantum dots. Physical Review B, 2017, 96, .	3.2	16
16	Path integral Monte Carlo benchmarks for two-dimensional quantum dots. Physical Review B, 2017, 96, .	3.2	10
17	Non-perturbative semiclassical model for strong-field ionization. Journal of Physics: Conference Series, 2017, 875, 022019.	0.4	0
18	Long-range auto-correlations in limit order book markets: Inter-and cross-event analysis. , 2017, , .		0

#	ARTICLE	IF	CITATIONS
19	Strong quantum scarring by local impurities. <i>Scientific Reports</i> , 2016, 6, 37656.	3.3	24
20	Extended Ewald summation technique. <i>Computer Physics Communications</i> , 2016, 206, 64-68.	7.5	1
21	Coexisting Honeycomb and Kagome Characteristics in the Electronic Band Structure of Molecular Graphene. <i>Nano Letters</i> , 2016, 16, 3519-3523.	9.1	41
22	The Effects of Pharmacological Compounds on Beat Rate Variations in Human Long QT-Syndrome Cardiomyocytes. <i>Stem Cell Reviews and Reports</i> , 2016, 12, 698-707.	5.6	14
23	Stability of the Dirac cone in artificial graphene formed in quantum wells: a computational many-electron study. <i>New Journal of Physics</i> , 2016, 18, 083014.	2.9	7
24	Semiclassical two-step model for strong-field ionization. <i>Physical Review A</i> , 2016, 94, .	2.5	114
25	Thermal effects on the Wigner localization and Friedel oscillations in many-electron nanowires. <i>Physical Review B</i> , 2016, 94, .	3.2	25
26	Validity of power functionals for a homogeneous electron gas in reduced-density-matrix-functional theory. <i>Physical Review A</i> , 2016, 93, .	2.5	2
27	Hermitian one-particle density matrix through a semiclassical gradient expansion. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2016, 49, 015205.	2.1	2
28	Bill2d – A software package for classical two-dimensional Hamiltonian systems. <i>Computer Physics Communications</i> , 2016, 199, 133-138.	7.5	5
29	Introducing libeemd: a program package for performing the ensemble empirical mode decomposition. <i>Computational Statistics</i> , 2016, 31, 545-557.	1.5	84
30	Self-consistent total-energy approximation for electron gas systems. <i>Physica Status Solidi (B): Basic Research</i> , 2015, 252, 496-501.	1.5	1
31	Finite-size effects and interactions in artificial graphene formed by repulsive scatterers. <i>Journal of Physics Condensed Matter</i> , 2015, 27, 425501.	1.8	5
32	Two-step semiclassical model for strong-field ionization with interference and multielectron polarization effects. <i>Journal of Physics: Conference Series</i> , 2015, 635, 092047.	0.4	0
33	Fluctuations of Hi-Hat Timing and Dynamics in a Virtuoso Drum Track of a Popular Music Recording. <i>PLoS ONE</i> , 2015, 10, e0127902.	2.5	15
34	Controlled high-fidelity navigation in the charge stability diagram of a double quantum dot. <i>Journal of Physics Condensed Matter</i> , 2015, 27, 115303.	1.8	1
35	Suppression of strong-field ionization by optimal pulse shaping: Application to hydrogen and the hydrogen molecular ion. <i>Physical Review A</i> , 2015, 91, .	2.5	7
36	Density-functional investigation of molecular graphene: CO on Cu(111). <i>Physical Review B</i> , 2014, 90, .	3.2	10

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37	Optimal control of high-harmonic generation by intense few-cycle pulses. <i>Physical Review A</i> , 2014, 90, .	2.5	20
38	Asymmetric photoelectron momentum distributions due to quantum interference in strong-field ionization by a few-cycle pulse. <i>Physical Review A</i> , 2014, 89, .	2.5	13
39	Scaling in the correlation energies of atomic ions. <i>Physical Review A</i> , 2014, 90, .	2.5	5
40	Dirac physics in flakes of artificial graphene in magnetic fields. <i>Physical Review B</i> , 2014, 89, .	3.2	13
41	Electron magneto-tunneling through single self-assembled InAs quantum dashes. <i>Applied Physics Express</i> , 2014, 7, 045001.	2.4	6
42	Prediction of quantum dot characteristics through universal scaling relations. <i>Journal of Physics Condensed Matter</i> , 2014, 26, 355501.	1.8	2
43	Optimal control of charge with local gates in quantum-dot lattices. <i>European Physical Journal B</i> , 2014, 87, 1.	1.5	1
44	Construction of the B88 Exchange-Energy Functional in Two Dimensions. <i>Journal of Chemical Theory and Computation</i> , 2014, 10, 1837-1842.	5.3	17
45	Stable and efficient momentum-space solutions of the time-dependent Schrödinger equation for one-dimensional atoms in strong laser fields. <i>Journal of Computational Physics</i> , 2014, 279, 174-181.	3.8	4
46	Time-dependent density-functional theory of strong-field ionization of atoms by soft x rays. <i>Physical Review A</i> , 2014, 90, .	2.5	29
47	Chalcopyrite Quantum Wells and Dots in Solar-Cell Applications. <i>Springer Series in Materials Science</i> , 2014, , 115-130.	0.6	1
48	Optimal control strategies for coupled quantum dots. <i>Open Physics</i> , 2013, 11, .	1.7	4
49	Fractal dynamics in chaotic quantum transport. <i>Physical Review E</i> , 2013, 88, 022913.	2.1	19
50	Imaginary time propagation code for large-scale two-dimensional eigenvalue problems in magnetic fields. <i>Computer Physics Communications</i> , 2013, 184, 769-776.	7.5	12
51	Two-electron quantum dot in tilted magnetic fields: Sensitivity to the confinement model. <i>European Physical Journal B</i> , 2013, 86, 1.	1.5	8
52	Coulomb-interacting billiards in circular cavities. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2013, 46, 235102.	2.1	1
53	Optimal control of quantum revival. <i>European Physical Journal B</i> , 2013, 86, 1.	1.5	8
54	Many-electron transport in Aharonov-Bohm interferometers: A time-dependent density-functional study. <i>European Physical Journal B</i> , 2013, 86, 1.	1.5	5

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55	Large two-dimensional electronic systems: Self-consistent energies and densities at low cost. Physical Review B, 2013, 87, .	3.2	6
56	Optimal local control of coherent dynamics in custom-made nanostructures. Physical Review B, 2013, 87, .	3.2	14
57	Optimal control of strong-field ionization with time-dependent density-functional theory. Physical Review A, 2013, 88, .	2.5	22
58	Stability of spin droplets in realistic quantum Hall devices. Journal of Physics Condensed Matter, 2013, 25, 155604.	1.8	1
59	Scaling in the correlation energies of two-dimensional artificial atoms. Journal of Physics Condensed Matter, 2013, 25, 505504.	1.8	7
60	Time-dependent transport in Aharonov-Bohm interferometers. New Journal of Physics, 2012, 14, 053024.	2.9	9
61	Quantitative modeling of spin relaxation in quantum dots. Physical Review B, 2012, 85, .	3.2	7
62	Kirzhnits gradient expansion in two dimensions. Physical Review B, 2012, 85, .	3.2	21
63	Optical control of entangled states in semiconductor quantum wells. Physical Review B, 2012, 86, .	3.2	11
64	Violation of a local form of the Lieb-Oxford bound. Physical Review A, 2012, 85, .	2.5	12
65	Strong-field-ionization suppression by light-field control. Physical Review A, 2012, 86, .	2.5	22
66	Electron-Electron Interactions in Artificial Graphene. Physical Review Letters, 2012, 108, 246803.	7.8	32
67	Tetrahedral chalcopyrite quantum dots for solar-cell applications. Applied Physics Letters, 2011, 99, .	3.3	14
68	Electronic structures in single self-assembled InAs quantum dashes detected by nanogap metal electrodes. Applied Physics Letters, 2011, 99, 182104.	3.3	5
69	Strictly correlated uniform electron droplets. Physical Review B, 2011, 83, .	3.2	29
70	Many-body effects in quantum rings: From the Aharonov-Bohm transport to the quantum Hall regime. , 2011, , .		0
71	Spin Droplet Formation in Quantum Dots. , 2011, , .		0
72	Chalcopyrite Semiconductors for Quantum Well Solar Cells. Advanced Energy Materials, 2011, 1, 1109-1115.	19.5	7

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73	Many-particle dynamics and intershell effects in Wigner molecules. Journal of Physics Condensed Matter, 2011, 23, 395602.	1.8	2
74	Observation of sequential spin flips in quantum rings. Physical Review B, 2011, 84, .	3.2	5
75	Constraints of reduced density-matrix functional theory for the two-dimensional homogeneous electron gas. Physical Review B, 2011, 84, .	3.2	7
76	On the lower bound on the exchange-correlation energy in two dimensions. Physica E: Low-Dimensional Systems and Nanostructures, 2010, 42, 1236-1238.	2.7	0
77	Exchange and correlation energy functionals for two-dimensional open-shell systems. Physica E: Low-Dimensional Systems and Nanostructures, 2010, 42, 1232-1235.	2.7	6
78	Semi-local density functional for the exchange-correlation energy of electrons in two dimensions. International Journal of Quantum Chemistry, 2010, 110, 2308-2314.	2.0	12
79	Parameter-free density functional for the correlation energy in two dimensions. Physical Review B, 2010, 81, .	3.2	20
80	Colle-Salvetti-type local density functional for the exchange-correlation energy in two dimensions. Physical Review A, 2010, 82, .	2.5	10
81	Universal correction for the Becke-Johnson exchange potential. Journal of Chemical Physics, 2010, 132, 044112.	3.0	56
82	Interaction-Induced Spin Polarization in Quantum Dots. Physical Review Letters, 2010, 105, 046802.	7.8	27
83	Exchange-correlation potential with a proper long-range behavior for harmonically confined electron droplets. Physical Review B, 2010, 82, .	3.2	7
84	Billiards in magnetic fields: A molecular dynamics approach. Physical Review E, 2010, 81, 016703.	2.1	8
85	Becke-Johnson-type exchange potential for two-dimensional systems. Physical Review B, 2010, 81, .	3.2	36
86	Aharonov-Bohm effect in many-electron quantum rings. Physical Review B, 2010, 81, .	3.2	18
87	Toward an All-Around Semilocal Potential for Electronic Exchange. Journal of Chemical Theory and Computation, 2010, 6, 3664-3670.	5.3	19
88	Ultrafast sequential charge transfer in a double quantum dot. Physical Review B, 2010, 82, .	3.2	17
89	Laplacian-level density functionals for the exchange-correlation energy of low-dimensional nanostructures. Physical Review B, 2010, 82, .	3.2	15
90	Exact Coulomb cutoff technique for supercell calculations in two dimensions. Physical Review B, 2009, 80, .	3.2	13

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91	Orbital-free energy functional for electrons in two dimensions. Physical Review B, 2009, 80, .	3.2	22
92	Electronic exchange in quantum rings: Beyond the local-density approximation. Physical Review B, 2009, 79, .	3.2	23
93	Lower Bounds on the Exchange-Correlation Energy in Reduced Dimensions. Physical Review Letters, 2009, 102, 206406.	7.8	37
94	Gaussian approximations for the exchange-energy functional of current-carrying states: Applications to two-dimensional systems. Physical Review A, 2009, 80, .	2.5	27
95	Correlation energy of finite two-dimensional systems: Toward nonempirical and universal modeling. Physical Review B, 2009, 79, .	3.2	26
96	Density gradients for the exchange energy of electrons in two dimensions. Physical Review A, 2009, 79, .	2.5	28
97	Large quantum rings in the $\nu=1$ quantum Hall regime. Journal of Physics Condensed Matter, 2009, 21, 025301.	1.8	6
98	Students' pre-knowledge as a guideline in the teaching of introductory thermal physics at university. European Journal of Physics, 2009, 30, 593-604.	0.6	21
99	Femtosecond laser pulse shaping for enhanced ionization. Europhysics Letters, 2009, 87, 53001.	2.0	34
100	Coherent quantum switch driven by optimized laser pulses. Physica E: Low-Dimensional Systems and Nanostructures, 2008, 40, 1593-1595.	2.7	6
101	Electron localization function for two-dimensional systems. Physical Review B, 2008, 77, .	3.2	16
102	Local correlation functional for electrons in two dimensions. Physical Review B, 2008, 78, .	3.2	25
103	Optimal laser control of double quantum dots. Physical Review B, 2008, 77, .	3.2	32
104	Pfaffian and fragmented states at $\nu=5/2$ in quantum Hall droplets. Physical Review B, 2008, 78, .	3.2	12
105	Exchange-correlation orbital functionals in current-density functional theory: Application to a quantum dot in magnetic fields. Physical Review B, 2008, 77, .	3.2	22
106	Spin droplets in confined quantum Hall systems. Physical Review B, 2008, 77, .	3.2	22
107	Exchange-energy functionals for finite two-dimensional systems. Physical Review B, 2007, 76, .	3.2	34
108	Optimal Control of Quantum Rings by Terahertz Laser Pulses. Physical Review Letters, 2007, 98, 157404.	7.8	102

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109	Magnetization of Two-Dimensional Quantum Rings. AIP Conference Proceedings, 2006, , .	0.4	0
110	Three real-space discretization techniques in electronic structure calculations. Physica Status Solidi (B): Basic Research, 2006, 243, 1016-1053.	1.5	93
111	Addition-energy distributions of realistic few-electron quantum dots. Physica E: Low-Dimensional Systems and Nanostructures, 2006, 34, 624-627.	2.7	0
112	Effects of geometry and impurities on quantum rings in magnetic fields. Physical Review B, 2006, 73, .	3.2	76
113	Half-Integer Filling-Factor States in Quantum Dots. Physical Review Letters, 2006, 96, 126805.	7.8	24
114	Giant vortices in rotating electron droplets. Physical Review B, 2006, 73, .	3.2	7
115	Diagonalizations on a correlated basis. Physica E: Low-Dimensional Systems and Nanostructures, 2005, 26, 441-445.	2.7	3
116	Characterization of deformed quantum dots by modeling single-electron-tunneling experiments. Physica E: Low-Dimensional Systems and Nanostructures, 2005, 26, 477-481.	2.7	1
117	Level anticrossings in quantum dots. AIP Conference Proceedings, 2005, , .	0.4	0
118	Stability of the shell structure in two-dimensional quantum dots. Physical Review B, 2005, 71, .	3.2	7
119	Stability of vortex structures in quantum dots. Physical Review B, 2005, 71, .	3.2	21
120	Statistics of closed quantum dots: Effects of disorder and interactions. Physical Review B, 2005, 72, .	3.2	4
121	Rectangular quantum dots in high magnetic fields. Physical Review B, 2004, 69, .	3.2	30
122	Broken symmetry in density-functional theory: Analysis and cure. Physical Review B, 2004, 69, .	3.2	29
123	Maximum-density-droplet formation in hard-wall quantum dots. Physica E: Low-Dimensional Systems and Nanostructures, 2004, 22, 490-493.	2.7	5
124	Impurity effects in quantum dots: Toward quantitative modeling. Physical Review B, 2004, 70, .	3.2	107
125	Electronic structure of rectangular quantum dots. Physical Review B, 2003, 67, .	3.2	79
126	Testing of two-dimensional local approximations in the current-spin and spin-density-functional theories. Physical Review B, 2003, 67, .	3.2	47

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127	Wigner molecules in polygonal quantum dots: A density-functional study. Physical Review B, 2003, 67, .	3.2	25
128	Electronic properties of model quantum-dot structures in zero and finite magnetic fields. European Physical Journal B, 2002, 26, 241-252.	1.5	7
129	Detection of ST-Segment Variation in ECG Using Transfer Entropy. , 0, , .		0
130	Robust Estimation of the Scaling Exponent in Detrended Fluctuation Analysis of Beat Rate Variability. , 0, , .		1
131	Nonlinear Effects of Winter Swimming and Sauna Recreational Activities on the Heart Rate Variability. , 0, , .		0
132	Short- and Long-Range Correlations in Beat Rate Variability of Human Pluripotent-Stem-Cell-Derived Cardiomyocytes. , 0, , .		1
133	Intrinsic Complexity of RR and QT Intervals at the Cellular Level. , 0, , .		0
134	Online Tool for Dynamical Heart Rate Variability Analysis. , 0, , .		0