

# Constantine Yannouleas

## List of Publications by Year in descending order

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58  
papers

1,854  
citations

304368

22  
h-index

264894

42  
g-index

60  
all docs

60  
docs citations

60  
times ranked

805  
citing authors

#	ARTICLE	IF	CITATIONS
1	Spontaneous Symmetry Breaking in Single and Molecular Quantum Dots. <i>Physical Review Letters</i> , 1999, 82, 5325-5328.	2.9	224
2	Symmetry breaking and quantum correlations in finite systems: studies of quantum dots and ultracold Bose gases and related nuclear and chemical methods. <i>Reports on Progress in Physics</i> , 2007, 70, 2067-2148.	8.1	198
3	Collective and Independent-Particle Motion in Two-Electron Artificial Atoms. <i>Physical Review Letters</i> , 2000, 85, 1726-1729.	2.9	119
4	Two-dimensional quantum dots in high magnetic fields: Rotating-electron-molecule versus composite-fermion approach. <i>Physical Review B</i> , 2003, 68, .	1.1	77
5	Molecular Dynamics in Shape Space and Femtosecond Vibrational Spectroscopy of Metal Clusters. <i>Journal of Physical Chemistry A</i> , 1998, 102, 2505-2508.	1.1	68
6	Trial wave functions with long-range Coulomb correlations for two-dimensional N-electron systems in high magnetic fields. <i>Physical Review B</i> , 2002, 66, .	1.1	67
7	Multiply Charged Metal Cluster Anions. <i>Physical Review Letters</i> , 2001, 86, 2996-2999.	2.9	64
8	Symmetry restoration in mean-field approaches. <i>Journal of Physics G: Nuclear and Particle Physics</i> , 2021, 48, 123001.	1.4	62
9	Energetics, forces, and quantized conductance in jellium-modeled metallic nanowires. <i>Physical Review B</i> , 1998, 57, 4872-4882.	1.1	59
10	On Mesoscopic Forces and Quantized Conductance in Model Metallic Nanowires. <i>Journal of Physical Chemistry B</i> , 1997, 101, 5780-5783.	1.2	55
11	Formation and control of electron molecules in artificial atoms: Impurity and magnetic-field effects. <i>Physical Review B</i> , 2000, 61, 15895-15904.	1.1	52
12	Electronic Entropy, Shell Structure, and Size-Evolutionary Patterns of Metal Clusters. <i>Physical Review Letters</i> , 1997, 78, 1424-1427.	2.9	49
13	Group theoretical analysis of symmetry breaking in two-dimensional quantum dots. <i>Physical Review B</i> , 2003, 68, .	1.1	48
14	Crystalline Boson Phases in Harmonic Traps: Beyond the Gross-Pitaevskii Mean Field. <i>Physical Review Letters</i> , 2004, 93, 230405.	2.9	44
15	Structural properties of electrons in quantum dots in high magnetic fields: Crystalline character of cusp states and excitation spectra. <i>Physical Review B</i> , 2004, 70, .	1.1	38
16	Strongly correlated wavefunctions for artificial atoms and molecules. <i>Journal of Physics Condensed Matter</i> , 2002, 14, L591-L598.	0.7	37
17	Magnetic-field manipulation of chemical bonding in artificial molecules. <i>International Journal of Quantum Chemistry</i> , 2002, 90, 699-708.	1.0	32
18	Three-electron anisotropic quantum dots in variable magnetic fields: Exact results for excitation spectra, spin structures, and entanglement. <i>Physical Review B</i> , 2007, 76, .	1.1	32

#	ARTICLE	IF	CITATIONS
19	Unified description of floppy and rigid rotating Wigner molecules formed in quantum dots. <i>Physical Review B</i> , 2004, 69, .	1.1	29
20	Rapidly rotating boson molecules with long- or short-range repulsion: An exact diagonalization study. <i>Physical Review A</i> , 2007, 75, .	1.0	25
21	Edge states in graphene quantum dots: Fractional quantum Hall effect analogies and differences at zero magnetic field. <i>Physical Review B</i> , 2009, 79, .	1.1	24
22	Double-Well Ultracold-Fermions Computational Microscopy: Wave-Function Anatomy of Attractive-Pairing and Wigner-Molecule Entanglement and Natural Orbitals. <i>Nano Letters</i> , 2015, 15, 7105-7111.	4.5	23
23	From a few to many electrons in quantum dots under strong magnetic fields: Properties of rotating electron molecules with multiple rings. <i>Physical Review B</i> , 2006, 73, .	1.1	22
24	Unique nature of the lowest Landau level in finite graphene samples with zigzag edges: Dirac electrons with mixed bulk-edge character. <i>Physical Review B</i> , 2011, 83, .	1.1	22
25	Ultracold few fermionic atoms in needle-shaped double wells: spin chains and resonating spin clusters from microscopic Hamiltonians emulated via antiferromagnetic Heisenberg and $t$ - $J$ models. <i>New Journal of Physics</i> , 2016, 18, 073018.	1.2	22
26	Nonuniversal Transmission Phase Lapses through a Quantum Dot: An Exact Diagonalization of the Many-Body Transport Problem. <i>Physical Review Letters</i> , 2008, 101, 136803.	2.9	21
27	Patterns of the Aharonov-Bohm oscillations in graphene nanorings. <i>Physical Review B</i> , 2012, 85, .	1.1	20
28	Decay channels and appearance sizes of doubly anionic gold and silver clusters. <i>Physical Review B</i> , 2000, 61, R10587-R10589.	1.1	19
29	Bosonic Molecules in Rotating Traps. <i>Physical Review Letters</i> , 2006, 97, 090401.	2.9	18
30	Electron and boson clusters in confined geometries: Symmetry breaking in quantum dots and harmonic traps. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2006, 103, 10600-10605.	3.3	17
31	Artificial quantum-dot helium molecules: Electronic spectra, spin structures, and Heisenberg clusters. <i>Physical Review B</i> , 2009, 80, .	1.1	16
32	Unified microscopic approach to the interplay of pinned-Wigner-solid and liquid behavior of the lowest Landau-level states in the neighborhood of $\nu = 1/2$ . <i>Physical Review B</i> , 2011, 84, .	1.1	16
33	Topological effects and particle physics analogies beyond the massless Dirac-Weyl fermion in graphene nanorings. <i>Physical Review B</i> , 2013, 87, .	1.1	14
34	Two-point momentum correlations of few ultracold quasi-one-dimensional trapped fermions: Diffraction patterns. <i>Physical Review A</i> , 2017, 96, .	1.0	14
35	Symmetry-conserving vortex clusters in small rotating clouds of ultracold bosons. <i>Physical Review A</i> , 2008, 78, .	1.0	13
36	Beyond the constant-mass Dirac physics: Solitons, charge fractionization, and the emergence of topological insulators in graphene rings. <i>Physical Review B</i> , 2014, 89, .	1.1	13

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37	Transport, Aharonovâ€“Bohm, and Topological Effects in Graphene Molecular Junctions and Graphene Nanorings. Journal of Physical Chemistry C, 2015, 119, 11131-11142.	1.5	13
38	Interatomic interaction effects on second-order momentum correlations and Hong-Ou-Mandel interference of double-well-trapped ultracold fermionic atoms. Physical Review A, 2018, 97, .	1.0	13
39	Comment on â€œDensity functional theory study of some structural and energetic properties of small lithium clustersâ€•[J. Chem. Phys. 105, 9933 (1996)]. Journal of Chemical Physics, 1997, 107, 1032-1033.	1.2	11
40	Thermal Quenching of Electronic Shells and Channel Competition in Cluster Fission. Physical Review Letters, 2002, 89, 173403.	2.9	11
41	Symmetry breaking and Wigner molecules in few-electron quantum dots. Physica Status Solidi (A) Applications and Materials Science, 2006, 203, 1160-1171.	0.8	11
42	Quantal molecular description and universal aspects of the spectra of bosons and fermions in the lowest Landau level. Physical Review A, 2010, 81, .	1.0	9
43	Molecular formations and spectra due to electron correlations in three-electron hybrid double-well qubits. Physical Review B, 2022, 105, .	1.1	8
44	Shell structure and shapes of fermion microsystems: A comparative study of 3He and Na clusters. Journal of Chemical Physics, 1996, 105, 8734-8740.	1.2	7
45	QUANTUM DOTS BASED ON PARABOLIC QUANTUM WELLS: IMPORTANCE OF ELECTRONIC CORRELATIONS. International Journal of Modern Physics B, 2007, 21, 1316-1325.	1.0	7
46	Edge and bulk components of lowest-Landau-level orbitals, correlated fractional quantum Hall effect incompressible states, and insulating behavior in finite graphene samples. Physical Review B, 2010, 82, .	1.1	7
47	Interference, spectral momentum correlations, entanglement, and Bell inequality for a trapped interacting ultracold atomic dimer: Analogies with biphoton interferometry. Physical Review A, 2019, 99, .	1.0	7
48	Graphene flakes with defective edge terminations: Universal and topological aspects, and one-dimensional quantum behavior. Physical Review B, 2012, 86, .	1.1	6
49	Interplay of relativistic and nonrelativistic transport in atomically precise segmented graphene nanoribbons. Scientific Reports, 2015, 5, 7893.	1.6	5
50	Anyon optics with time-of-flight two-particle interference of double-well-trapped interacting ultracold atoms. Physical Review A, 2019, 100, .	1.0	5
51	Wigner molecules and hybrid qubits. Journal of Physics Condensed Matter, 2022, 34, 21LT01.	0.7	5
52	Third-order momentum correlation interferometry maps for entangled quantal states of three singly trapped massive ultracold fermions. Physical Review A, 2019, 100, .	1.0	4
53	Exact closed-form analytic wave functions in two dimensions: Contact-interacting fermionic spinful ultracold atoms in a rapidly rotating trap. Physical Review Research, 2021, 3, .	1.3	4
54	Shell-Correction and Orbital-Free Density-Functional Methods for Finite Systems. Recent Advances in Computational, 2013, , 203-249.	0.8	3

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55	Bottom-up configuration-interaction emulations of ultracold fermions in entangled optical plaquettes: Building blocks of unconventional superconductivity. <i>Physical Review A</i> , 2017, 95, .	1.0	3
56	All-order momentum correlations of three ultracold bosonic atoms confined in triple-well traps: Signatures of emergent many-body quantum phase transitions and analogies with three-photon quantum-optics interference. <i>Physical Review A</i> , 2020, 101, .	1.0	3
57	Trial wave functions for ring-trapped ions and neutral atoms: Microscopic description of the quantum space-time crystal. <i>Physical Review A</i> , 2017, 96, .	1.0	2
58	Fractional quantum Hall physics and higher-order momentum correlations in a few spinful fermionic contact-interacting ultracold atoms in rotating traps. <i>Physical Review A</i> , 2020, 102, .	1.0	2