

Fernando Sols

List of Publications by Year in descending order

Source: <https://exaly.com/author-pdf/2848557/publications.pdf>

Version: 2024-02-01

133
papers

5,385
citations

126907

33
h-index

82547

72
g-index

136
all docs

136
docs citations

136
times ranked

4108
citing authors

#	ARTICLE	IF	CITATIONS
1	Dynamical polarization of graphene at finite doping. <i>New Journal of Physics</i> , 2006, 8, 318-318.	2.9	966
2	Theory for a quantum modulated transistor. <i>Journal of Applied Physics</i> , 1989, 66, 3892-3906.	2.5	386
3	On the possibility of transistor action based on quantum interference phenomena. <i>Applied Physics Letters</i> , 1989, 54, 350-352.	3.3	298
4	Coulomb Blockade in Graphene Nanoribbons. <i>Physical Review Letters</i> , 2007, 99, 166803.	7.8	286
5	Josephson effect between trapped Bose-Einstein condensates. <i>Physical Review A</i> , 1998, 57, R28-R31.	2.5	255
6	Voltage Rectification by a SQUID Ratchet. <i>Physical Review Letters</i> , 1996, 77, 2292-2295.	7.8	240
7	On the concept of spontaneously broken gauge symmetry in condensed matter physics. <i>Foundations of Physics</i> , 1991, 21, 353-364.	1.3	194
8	Dirac-point engineering and topological phase transitions in honeycomb optical lattices. <i>New Journal of Physics</i> , 2008, 10, 103027.	2.9	174
9	Electrostatic interactions between graphene layers and their environment. <i>Physical Review B</i> , 2008, 77, .	3.2	125
10	Lifetime of Image Surface States. <i>Physical Review Letters</i> , 1985, 55, 2348-2350.	7.8	111
11	Circular bends in electron waveguides. <i>Physical Review B</i> , 1990, 41, 11887-11891.	3.2	96
12	Coupling Light into Graphene Plasmons through Surface Acoustic Waves. <i>Physical Review Letters</i> , 2013, 111, 237405.	7.8	95
13	Wannier-Bloch Approach to Localization in High-Harmonics Generation in Solids. <i>Physical Review X</i> , 2017, 7, .	8.9	83
14	The Josephson plasmon as a Bogoliubov quasiparticle. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2001, 34, 4689-4696.	1.5	74
15	Two-body problem in graphene. <i>Physical Review B</i> , 2010, 81, .	3.2	70
16	Crossover from the Josephson effect to bulk superconducting flow. <i>Physical Review B</i> , 1994, 49, 15913-15919.	3.2	67
17	Nonadiabatic electron heat pump. <i>Physical Review B</i> , 2007, 76, .	3.2	64
18	Tunneling Center as a Source of Voltage Rectification in Josephson Junctions. <i>Physical Review Letters</i> , 1998, 80, 829-832.	7.8	63

#	ARTICLE	IF	CITATIONS
19	Scattering, dissipation, and transport in mesoscopic systems. <i>Annals of Physics</i> , 1992, 214, 386-438.	2.8	59
20	Comment on "Phase and Phase Diffusion of a Split Bose-Einstein Condensate". <i>Physical Review Letters</i> , 1998, 81, 1344-1344.	7.8	57
21	Oscillatory Decay of a Two-Component Bose-Einstein Condensate. <i>Physical Review Letters</i> , 2002, 89, 060403.	7.8	57
22	Entangled electron current through finite size normal-superconductor tunneling structures. <i>European Physical Journal B</i> , 2004, 40, 379-396.	1.5	53
23	Charge transfer processes for light ions moving in metals. <i>Physical Review B</i> , 1984, 30, 4878-4880.	3.2	52
24	Interactions and Magnetism in Graphene Boundary States. <i>Physical Review Letters</i> , 2008, 101, 036803.	7.8	51
25	Randomization of the phase after suppression of the Josephson coupling. <i>Physica B: Condensed Matter</i> , 1994, 194-196, 1389-1390.	2.7	47
26	Resonant Hawking radiation in Bose-Einstein condensates. <i>New Journal of Physics</i> , 2011, 13, 063048.	2.9	45
27	Variational approach to the excitonic phase transition in graphene. <i>Physical Review B</i> , 2010, 82, .	3.2	43
28	Subsea Electron Transport: Pumping Deep within the Fermi Sea. <i>Physical Review Letters</i> , 1999, 83, 4377-4380.	7.8	41
29	Dissipation-Driven Quantum Phase Transitions in a Tomonaga-Luttinger Liquid Electrostatically Coupled to a Metallic Gate. <i>Physical Review Letters</i> , 2006, 97, 076401.	7.8	41
30	Phase dynamics after connection of two separate Bose-Einstein condensates. <i>Physical Review A</i> , 2003, 67, .	2.5	39
31	Temperature dependence of the magnetic Casimir-Polder interaction. <i>Physical Review A</i> , 2009, 80, .	2.5	38
32	Split vortices in optically coupled Bose-Einstein condensates. <i>Physical Review A</i> , 2002, 66, .	2.5	36
33	Comment on "Creating artificial magnetic fields for cold atoms by photon-assisted tunneling" by Kolovsky A. R.. <i>Europhysics Letters</i> , 2013, 101, 40001.	2.0	34
34	Expansion of matter waves in static and driven periodic potentials. <i>Physical Review A</i> , 2010, 82, .	2.5	33
35	Temperature dependence of the conductivity of graphene on boron nitride. <i>Physical Review B</i> , 2012, 85, .	3.2	33
36	Andreev Reflection in Bosonic Condensates. <i>Physical Review Letters</i> , 2009, 102, 180405.	7.8	32

#	ARTICLE	IF	CITATIONS
37	Gauge-invariant formulation of electron linear transport. <i>Physical Review Letters</i> , 1991, 67, 2874-2877.	7.8	31
38	Directed transport in driven optical lattices by gauge generation. <i>Physical Review A</i> , 2011, 84, .	2.5	31
39	Violation of Cauchy-Schwarz inequalities by spontaneous Hawking radiation in resonant boson structures. <i>Physical Review A</i> , 2014, 89, .	2.5	29
40	Tunneling, self-trapping, and manipulation of higher modes of a Bose-Einstein condensate in a double well. <i>Physical Review A</i> , 2014, 89, .	2.5	29
41	Realization of uniform synthetic magnetic fields by periodically shaking an optical square lattice. <i>New Journal of Physics</i> , 2016, 18, 093013.	2.9	29
42	Bulk and surface diffusion of heavy particles in metals: A path-integral approach. <i>Physical Review B</i> , 1987, 36, 7775-7785.	3.2	28
43	Controlled Generation of Coherent Matter Currents Using a Periodic Driving Field. <i>Physical Review Letters</i> , 2008, 100, 250402.	7.8	28
44	Chemical potential standard for atomic Bose-Einstein condensates. <i>New Journal of Physics</i> , 2003, 5, 94-94.	2.9	27
45	Self-consistent scattering description of transport in normal-superconductor structures. <i>Physical Review B</i> , 1997, 55, 531-543.	3.2	26
46	Translational symmetry and microscopic preparation in oscillator models of quantum dissipation. <i>Physica A: Statistical Mechanics and Its Applications</i> , 1994, 212, 181-193.	2.6	25
47	Coherent Ratchets in Driven Bose-Einstein Condensates. <i>Physical Review Letters</i> , 2009, 103, 200601.	7.8	24
48	Supercurrent flow through an effective double-barrier structure. <i>Physical Review B</i> , 1996, 53, 6693-6704.	3.2	23
49	Effective Josephson dynamics in resonantly driven Bose-Einstein condensates. <i>New Journal of Physics</i> , 2013, 15, 103006.	2.9	22
50	Friction and sticking coefficients of rare gases approaching a metal surface. <i>Surface Science</i> , 1984, 137, 167-180.	1.9	21
51	Coulomb drag in graphene-boron nitride heterostructures: Effect of virtual phonon exchange. <i>Physical Review B</i> , 2012, 86, .	3.2	21
52	Deterministic Ratchet from Stationary Light Fields. <i>Physical Review Letters</i> , 2009, 103, 130601.	7.8	20
53	Dissipative quantum oscillator with two competing heat baths. <i>New Journal of Physics</i> , 2006, 8, 149-149.	2.9	19
54	Generation of uniform synthetic magnetic fields by split driving of an optical lattice. <i>Physical Review A</i> , 2014, 90, .	2.5	18

#	ARTICLE	IF	CITATIONS
55	Dissipation energy for a charge moving near a metal surface. <i>Surface Science</i> , 1985, 161, 33-38.	1.9	17
56	Self-energy of an electron in a gap between two metals and near a metallic slab. <i>Physical Review B</i> , 1987, 35, 9314-9317.	3.2	16
57	Self-consistent current-voltage characteristics of normal-superconductor interfaces. <i>Journal of Physics Condensed Matter</i> , 1995, 7, L317-L323.	1.8	16
58	Conductances in normal and normal/superconductor structures. <i>Superlattices and Microstructures</i> , 1999, 25, 627-638.	3.1	16
59	Entanglement and violation of classical inequalities in the Hawking radiation of flowing atom condensates. <i>New Journal of Physics</i> , 2015, 17, 105003.	2.9	16
60	Inelastic cross sections and charge states for B, C, N, and O ions moving in metals. <i>Physical Review A</i> , 1988, 37, 1469-1475.	2.5	15
61	Electronic lifetimes in ballistic quantum dots electrostatically coupled to metallic environments. <i>Physical Review B</i> , 2004, 70, .	3.2	15
62	Quasiclassical frustration. <i>Physical Review B</i> , 2005, 72, .	3.2	15
63	Thermalization Dynamics Close to a Quantum Phase Transition. <i>Physical Review Letters</i> , 2009, 102, 245701.	7.8	15
64	Weakly driven quantum coherent ratchets in cold-atom systems. <i>Physical Review A</i> , 2010, 82, .	2.5	15
65	Friction-induced enhancement in the optical activity of interacting chiral molecules. <i>Chemical Physics Letters</i> , 2011, 516, 29-34.	2.6	15
66	Dynamic interactions between a charge or an atom and a metal surface. <i>Solid State Communications</i> , 1982, 42, 687-690.	1.9	14
67	Strong-field-driven dynamics and high-harmonic generation in interacting one dimensional systems. <i>Physical Review Research</i> , 2020, 2, .	3.6	14
68	Orbital Josephson effect and interactions in driven atom condensates on a ring. <i>New Journal of Physics</i> , 2012, 14, 075023.	2.9	13
69	Trapping probabilities of H ₂ and D ₂ molecules in compact metallic surfaces by electron-hole pair interaction. <i>Surface Science</i> , 1984, 146, L577-L581.	1.9	12
70	Phase-resolution limit in the macroscopic interference between Bose-Einstein condensates. <i>Physical Review A</i> , 2001, 63, .	2.5	11
71	Minimal coupling in oscillator models of quantum dissipation. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2013, 392, 1989-1993.	2.6	11
72	Birth of a quasi-stationary black hole in an outcoupled Bose-Einstein condensate. <i>New Journal of Physics</i> , 2014, 16, 123033.	2.9	11

#	ARTICLE	IF	CITATIONS
73	Many-Body Quantum Chaos and Entanglement in a Quantum Ratchet. <i>Physical Review Letters</i> , 2018, 120, 234101.	7.8	11
74	Charge state distributions for ions moving in metals. <i>Nuclear Instruments & Methods in Physics Research B</i> , 1986, 13, 171-174.	1.4	10
75	Transport in normalâ€“superconductorâ€“normal structures with local conservation of current. <i>Physica B: Condensed Matter</i> , 1998, 252, 304-311.	2.7	10
76	Self-Consistent Theory of Transport in Quasiâ€“One-Dimensional Superconducting Wires. <i>Journal of Low Temperature Physics</i> , 2001, 122, 11-35.	1.4	10
77	Quantum electrodynamic fluctuations of the macroscopic Josephson phase. <i>Annals of Physics</i> , 2004, 310, 127-154.	2.8	10
78	Quantum frustration of dissipation by a spin bath. <i>New Journal of Physics</i> , 2008, 10, 115017.	2.9	9
79	Transmission through a defect in polyacene: the extreme limit of ultranarrow graphene. <i>Journal of Physics Condensed Matter</i> , 2008, 20, 255207.	1.8	9
80	Vortex trapping in suddenly connected Josephson junctions of Bose-Einstein condensates. <i>Physical Review A</i> , 2008, 77, .	2.5	9
81	Self-energy of a charge near an interface. <i>Surface Science</i> , 1988, 194, 275-311.	1.9	8
82	Nonlinear and nonlocal Meissner effect in superconducting wires. <i>Physical Review B</i> , 2001, 63, .	3.2	7
83	Vortex matter in atomic Boseâ€“Einstein condensates. <i>Physica C: Superconductivity and Its Applications</i> , 2002, 369, 125-134.	1.2	7
84	Two-step condensation of the charged Bose gas. <i>Physical Review E</i> , 2012, 86, 031102.	2.1	7
85	Generation of atypical hopping and interactions by kinetic driving. <i>New Journal of Physics</i> , 2018, 20, 073045.	2.9	7
86	The interaction between an electron and the polarization modes of a metal-insulator interface. <i>Solid State Communications</i> , 1987, 63, 245-249.	1.9	6
87	A model of quantum measurement in Josephson junctions. <i>Foundations of Physics</i> , 1995, 25, 681-700.	1.3	6
88	Divergent beams of nonlocally entangled electrons emitted from hybrid normal-superconducting structures. <i>New Journal of Physics</i> , 2005, 7, 231-231.	2.9	6
89	New light on cavity QED with ultracold atoms. <i>Journal of Physics: Conference Series</i> , 2005, 19, 34-39.	0.4	6
90	Aspects of quantum cooling in electron and atom systems. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , 2010, 42, 466-471.	2.7	6

#	ARTICLE	IF	CITATIONS
91	Triplet Pair Correlations ins-Wave Superfluids as a Signature of the Fulde-Ferrell-Larkin-Ovchinnikov State. <i>Physical Review Letters</i> , 2012, 109, 155304.	7.8	6
92	Feshbach-type resonances for two-particle scattering in graphene. <i>Physical Review B</i> , 2014, 89, .	3.2	6
93	Protected cat states from kinetic driving of a boson gas. <i>Physical Review Research</i> , 2019, 1, .	3.6	6
94	Charge states for protons moving in an electron gas: intra-atomic correlation and surface effects. <i>Journal of Physics C: Solid State Physics</i> , 1983, 16, 809-815.	1.5	5
95	Macroscopic description of phase-coherent transport in quasi-one-dimensional superconducting structures. <i>Physica B: Condensed Matter</i> , 1994, 203, 467-474.	2.7	5
96	Transport suppression in heterostructures driven by an ac gate voltage. <i>Chemical Physics</i> , 2005, 319, 360-367.	1.9	5
97	Long time universality of black-hole lasers. <i>New Journal of Physics</i> , 2021, 23, 023040.	2.9	5
98	The absence of charge backscattering in the nonequilibrium current of normal - superconductor structures. <i>Journal of Physics Condensed Matter</i> , 1996, 8, L207-L213.	1.8	4
99	Electromotive force and internal resistance of an electron pump. <i>Physical Review B</i> , 2004, 70, .	3.2	4
100	Creffield and Sols Reply:. <i>Physical Review Letters</i> , 2010, 104, .	7.8	4
101	Layered chaos in mean-field and quantum many-body dynamics. <i>Physical Review A</i> , 2019, 99, .	2.5	4
102	Interaction between tunneling impurities in metals. <i>Physical Review B</i> , 1988, 38, 12263-12276.	3.2	3
103	A broad theoretical approach to the investigation of mesoscopic electron devices. <i>Solid-State Electronics</i> , 1989, 32, 1371-1375.	1.4	3
104	Pipeline model of a Fermi-sea electron pump. <i>Annalen Der Physik</i> , 2000, 9, 776-784.	2.4	3
105	Phase diagram of the dissipative quantum particle in a box. <i>Physical Review B</i> , 2008, 78, .	3.2	3
106	Macroscopic amplification of electroweak effects in molecular Bose-Einstein condensates. <i>Physical Review A</i> , 2012, 85, .	2.5	3
107	Heat pump driven by the shot noise of a tunnel contact. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , 2016, 77, 156-163.	2.7	3
108	Cat states in a driven superfluid: role of signal shape and switching protocol. <i>European Physical Journal: Special Topics</i> , 2021, 230, 1013-1019.	2.6	3

#	ARTICLE	IF	CITATIONS
109	Zero bias supercurrent flow with arbitrary scattering. <i>Physica B: Condensed Matter</i> , 1994, 194-196, 1751-1752.	2.7	2
110	Violation of classical inequalities by resonant Hawking radiation in a sonic black hole. <i>Physica Scripta</i> , 2015, T165, 014035.	2.5	2
111	Electron-phonon vertex and its influence on the superconductivity of two-dimensional metals on a piezoelectric substrate. <i>Physical Review B</i> , 2016, 94, .	3.2	2
112	Continuous-time crystal from a spontaneous many-body Floquet state. <i>Physical Review A</i> , 2022, 105, .	2.5	2
113	Current-conserving description of nonlinear transport in NS and NSN structures. <i>European Physical Journal D</i> , 1996, 46, 579-580.	0.4	1
114	Effect of QED Fluctuations on the Dynamics of the Macroscopic Phase. , 1997, , 403-413.		1
115	Voltage Rectification in a Driven Asymmetric SQUID. <i>International Journal of Bifurcation and Chaos in Applied Sciences and Engineering</i> , 1998, 08, 849-851.	1.7	1
116	John Bardeen (1908-1991). <i>Ferroelectrics</i> , 2002, 267, 61-68.	0.6	1
117	Uncertainty, Incompleteness, Chance, and Design. , 2013, , 98-119.		1
118	Many-body effects in doped graphene on a piezoelectric substrate. <i>Physical Review B</i> , 2017, 96, .	3.2	1
119	Quantum Transport in the Blackâ€Hole Configuration of an Atom Condensate Outcoupled Through an Optical Lattice. <i>Annalen Der Physik</i> , 2017, 529, 1600385.	2.4	1
120	Coupling Light into Graphene Plasmons through Surface Acoustic Waves. <i>Physical Review Letters</i> , 2013, 111, .	7.8	1
121	Recursive Tight-Binding Greenâ€™s Function Method: Application to Ballistic and Dissipative Transport in Semiconductor Nanostructures. <i>NATO ASI Series Series B: Physics</i> , 1995, , 329-338.	0.2	1
122	Certeza razonable en ciencia y filosofÃa. <i>Scientia Et Fides</i> , 2016, 4, 483.	0.7	1
123	Expansion of a one-dimensional Bose gas: the role of interactions and kinetic-energy driving. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2022, 55, 135301.	1.5	1
124	Trapping probabilities of H2 and D2 molecules in compact metallic surfaces by electron-hole pair interaction. <i>Surface Science Letters</i> , 1984, 146, L577-L581.	0.1	0
125	Current and noise suppression in ac-driven coherent transport. <i>AIP Conference Proceedings</i> , 2005, , .	0.4	0
126	Variational approach to the Caldeiraâ€™Leggett model. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , 2010, 42, 378-382.	2.7	0

#	ARTICLE	IF	CITATIONS
127	Reprint of : Heat pump driven by the shot noise of a tunnel contact. Physica E: Low-Dimensional Systems and Nanostructures, 2016, 82, 50-57.	2.7	0
128	Macroscopic Quantum Phenomena in Atomic Bose-Einstein Condensates. , 2001, , 41-50.		0
129	Quantum Devices and Transistors. , 1989, , 147-217.		0
130	Approaches to Quantum Transport in Semiconductor Nanostructures. NATO ASI Series Series B: Physics, 1991, , 223-253.	0.2	0
131	Dynamics and Measurement of the Absolute Phase in Macroscopic Quantum Systems. , 1995, , 299-310.		0
132	Wannier-Bloch approach to localization in high-order harmonic generation in solids. , 2018, , .		0
133	A Fermi Pump. , 1999, , 158-167.		0