

Fernando Sols

List of Publications by Year in descending order

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133
papers

5,385
citations

145106

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136
all docs

136
docs citations

136
times ranked

4653
citing authors

#	ARTICLE	IF	CITATIONS
1	Continuous-time crystal from a spontaneous many-body Floquet state. <i>Physical Review A</i> , 2022, 105, .	1.0	2
2	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.	0.6	1
3	Long time universality of black-hole lasers. <i>New Journal of Physics</i> , 2021, 23, 023040.	1.2	5
4	Cat states in a driven superfluid: role of signal shape and switching protocol. <i>European Physical Journal: Special Topics</i> , 2021, 230, 1013-1019.	1.2	3
5	Strong-field-driven dynamics and high-harmonic generation in interacting one dimensional systems. <i>Physical Review Research</i> , 2020, 2, .	1.3	14
6	Layered chaos in mean-field and quantum many-body dynamics. <i>Physical Review A</i> , 2019, 99, .	1.0	4
7	Protected cat states from kinetic driving of a boson gas. <i>Physical Review Research</i> , 2019, 1, .	1.3	6
8	Generation of atypical hopping and interactions by kinetic driving. <i>New Journal of Physics</i> , 2018, 20, 073045.	1.2	7
9	Many-Body Quantum Chaos and Entanglement in a Quantum Ratchet. <i>Physical Review Letters</i> , 2018, 120, 234101.	2.9	11
10	Wannier-Bloch approach to localization in high-order harmonic generation in solids. , 2018, , .		0
11	Many-body effects in doped graphene on a piezoelectric substrate. <i>Physical Review B</i> , 2017, 96, .	1.1	1
12	Wannier-Bloch Approach to Localization in High-Harmonics Generation in Solids. <i>Physical Review X</i> , 2017, 7, .	2.8	83
13	Quantum Transport in the Black-Hole Configuration of an Atom Condensate Outcoupled Through an Optical Lattice. <i>Annalen Der Physik</i> , 2017, 529, 1600385.	0.9	1
14	Realization of uniform synthetic magnetic fields by periodically shaking an optical square lattice. <i>New Journal of Physics</i> , 2016, 18, 093013.	1.2	29
15	Reprint of : Heat pump driven by the shot noise of a tunnel contact. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , 2016, 82, 50-57.	1.3	0
16	Heat pump driven by the shot noise of a tunnel contact. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , 2016, 77, 156-163.	1.3	3
17	Electron-phonon vertex and its influence on the superconductivity of two-dimensional metals on a piezoelectric substrate. <i>Physical Review B</i> , 2016, 94, .	1.1	2
18	Certeza razonable en ciencia y filosofÃa. <i>Scientia Et Fides</i> , 2016, 4, 483.	0.3	1

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19	Entanglement and violation of classical inequalities in the Hawking radiation of flowing atom condensates. <i>New Journal of Physics</i> , 2015, 17, 105003.	1.2	16
20	Violation of classical inequalities by resonant Hawking radiation in a sonic black hole. <i>Physica Scripta</i> , 2015, T165, 014035.	1.2	2
21	Birth of a quasi-stationary black hole in an outcoupled Bose-Einstein condensate. <i>New Journal of Physics</i> , 2014, 16, 123033.	1.2	11
22	Violation of Cauchy-Schwarz inequalities by spontaneous Hawking radiation in resonant boson structures. <i>Physical Review A</i> , 2014, 89, .	1.0	29
23	Feshbach-type resonances for two-particle scattering in graphene. <i>Physical Review B</i> , 2014, 89, .	1.1	6
24	Generation of uniform synthetic magnetic fields by split driving of an optical lattice. <i>Physical Review A</i> , 2014, 90, .	1.0	18
25	Tunneling, self-trapping, and manipulation of higher modes of a Bose-Einstein condensate in a double well. <i>Physical Review A</i> , 2014, 89, .	1.0	29
26	Coupling Light into Graphene Plasmons through Surface Acoustic Waves. <i>Physical Review Letters</i> , 2013, 111, 237405.	2.9	95
27	Minimal coupling in oscillator models of quantum dissipation. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2013, 392, 1989-1993.	1.2	11
28	Effective Josephson dynamics in resonantly driven Bose-Einstein condensates. <i>New Journal of Physics</i> , 2013, 15, 103006.	1.2	22
29	Comment on "Creating artificial magnetic fields for cold atoms by photon-assisted tunneling" by Kolovsky A. R.. <i>Europhysics Letters</i> , 2013, 101, 40001.	0.7	34
30	Uncertainty, Incompleteness, Chance, and Design. , 2013, , 98-119.		1
31	Coupling Light into Graphene Plasmons through Surface Acoustic Waves. <i>Physical Review Letters</i> , 2013, 111, .	2.9	1
32	Orbital Josephson effect and interactions in driven atom condensates on a ring. <i>New Journal of Physics</i> , 2012, 14, 075023.	1.2	13
33	Triplet Pair Correlations in Wave Superfluids as a Signature of the Fulde-Ferrell-Larkin-Ovchinnikov State. <i>Physical Review Letters</i> , 2012, 109, 155304.	2.9	6
34	Macroscopic amplification of electroweak effects in molecular Bose-Einstein condensates. <i>Physical Review A</i> , 2012, 85, .	1.0	3
35	Temperature dependence of the conductivity of graphene on boron nitride. <i>Physical Review B</i> , 2012, 85, .	1.1	33
36	Coulomb drag in graphene-boron nitride heterostructures: Effect of virtual phonon exchange. <i>Physical Review B</i> , 2012, 86, .	1.1	21

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37	Two-step condensation of the charged Bose gas. <i>Physical Review E</i> , 2012, 86, 031102.	0.8	7
38	Directed transport in driven optical lattices by gauge generation. <i>Physical Review A</i> , 2011, 84, .	1.0	31
39	Friction-induced enhancement in the optical activity of interacting chiral molecules. <i>Chemical Physics Letters</i> , 2011, 516, 29-34.	1.2	15
40	Resonant Hawking radiation in Bose-Einstein condensates. <i>New Journal of Physics</i> , 2011, 13, 063048.	1.2	45
41	Expansion of matter waves in static and driven periodic potentials. <i>Physical Review A</i> , 2010, 82, .	1.0	33
42	Aspects of quantum cooling in electron and atom systems. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , 2010, 42, 466-471.	1.3	6
43	Variational approach to the Caldeira-Leggett model. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , 2010, 42, 378-382.	1.3	0
44	Weakly driven quantum coherent ratchets in cold-atom systems. <i>Physical Review A</i> , 2010, 82, .	1.0	15
45	Creffield and Sols Reply:. <i>Physical Review Letters</i> , 2010, 104, .	2.9	4
46	Variational approach to the excitonic phase transition in graphene. <i>Physical Review B</i> , 2010, 82, .	1.1	43
47	Two-body problem in graphene. <i>Physical Review B</i> , 2010, 81, .	1.1	70
48	Deterministic Ratchet from Stationary Light Fields. <i>Physical Review Letters</i> , 2009, 103, 130601.	2.9	20
49	Thermalization Dynamics Close to a Quantum Phase Transition. <i>Physical Review Letters</i> , 2009, 102, 245701.	2.9	15
50	Andreev Reflection in Bosonic Condensates. <i>Physical Review Letters</i> , 2009, 102, 180405.	2.9	32
51	Coherent Ratchets in Driven Bose-Einstein Condensates. <i>Physical Review Letters</i> , 2009, 103, 200601.	2.9	24
52	Temperature dependence of the magnetic Casimir-Polder interaction. <i>Physical Review A</i> , 2009, 80, .	1.0	38
53	Electrostatic interactions between graphene layers and their environment. <i>Physical Review B</i> , 2008, 77, .	1.1	125
54	Dirac-point engineering and topological phase transitions in honeycomb optical lattices. <i>New Journal of Physics</i> , 2008, 10, 103027.	1.2	174

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55	Controlled Generation of Coherent Matter Currents Using a Periodic Driving Field. <i>Physical Review Letters</i> , 2008, 100, 250402.	2.9	28
56	Quantum frustration of dissipation by a spin bath. <i>New Journal of Physics</i> , 2008, 10, 115017.	1.2	9
57	Transmission through a defect in polyacene: the extreme limit of ultranarrow graphene. <i>Journal of Physics Condensed Matter</i> , 2008, 20, 255207.	0.7	9
58	Vortex trapping in suddenly connected Josephson junctions of Bose-Einstein condensates. <i>Physical Review A</i> , 2008, 77, .	1.0	9
59	Interactions and Magnetism in Graphene Boundary States. <i>Physical Review Letters</i> , 2008, 101, 036803.	2.9	51
60	Phase diagram of the dissipative quantum particle in a box. <i>Physical Review B</i> , 2008, 78, .	1.1	3
61	Nonadiabatic electron heat pump. <i>Physical Review B</i> , 2007, 76, .	1.1	64
62	Coulomb Blockade in Graphene Nanoribbons. <i>Physical Review Letters</i> , 2007, 99, 166803.	2.9	286
63	Dissipative quantum oscillator with two competing heat baths. <i>New Journal of Physics</i> , 2006, 8, 149-149.	1.2	19
64	Dynamical polarization of graphene at finite doping. <i>New Journal of Physics</i> , 2006, 8, 318-318.	1.2	966
65	Dissipation-Driven Quantum Phase Transitions in a Tomonaga-Luttinger Liquid Electrostatically Coupled to a Metallic Gate. <i>Physical Review Letters</i> , 2006, 97, 076401.	2.9	41
66	Divergent beams of nonlocally entangled electrons emitted from hybrid normal-superconducting structures. <i>New Journal of Physics</i> , 2005, 7, 231-231.	1.2	6
67	New light on cavity QED with ultracold atoms. <i>Journal of Physics: Conference Series</i> , 2005, 19, 34-39.	0.3	6
68	Transport suppression in heterostructures driven by an ac gate voltage. <i>Chemical Physics</i> , 2005, 319, 360-367.	0.9	5
69	Current and noise suppression in ac-driven coherent transport. <i>AIP Conference Proceedings</i> , 2005, , .	0.3	0
70	Quasiclassical frustration. <i>Physical Review B</i> , 2005, 72, .	1.1	15
71	Electromotive force and internal resistance of an electron pump. <i>Physical Review B</i> , 2004, 70, .	1.1	4
72	Electronic lifetimes in ballistic quantum dots electrostatically coupled to metallic environments. <i>Physical Review B</i> , 2004, 70, .	1.1	15

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73	Entangled electron current through finite size normal-superconductor tunneling structures. European Physical Journal B, 2004, 40, 379-396.	0.6	53
74	Quantum electrodynamic fluctuations of the macroscopic Josephson phase. Annals of Physics, 2004, 310, 127-154.	1.0	10
75	Phase dynamics after connection of two separate Bose-Einstein condensates. Physical Review A, 2003, 67, .	1.0	39
76	Chemical potential standard for atomic Bose-Einstein condensates. New Journal of Physics, 2003, 5, 94-94.	1.2	27
77	Split vortices in optically coupled Bose-Einstein condensates. Physical Review A, 2002, 66, .	1.0	36
78	Oscillatory Decay of a Two-Component Bose-Einstein Condensate. Physical Review Letters, 2002, 89, 060403.	2.9	57
79	John Bardeen (1908-1991). Ferroelectrics, 2002, 267, 61-68.	0.3	1
80	Vortex matter in atomic Bose-Einstein condensates. Physica C: Superconductivity and Its Applications, 2002, 369, 125-134.	0.6	7
81	Self-Consistent Theory of Transport in Quasi-One-Dimensional Superconducting Wires. Journal of Low Temperature Physics, 2001, 122, 11-35.	0.6	10
82	The Josephson plasmon as a Bogoliubov quasiparticle. Journal of Physics B: Atomic, Molecular and Optical Physics, 2001, 34, 4689-4696.	0.6	74
83	Phase-resolution limit in the macroscopic interference between Bose-Einstein condensates. Physical Review A, 2001, 63, .	1.0	11
84	Nonlinear and nonlocal Meissner effect in superconducting wires. Physical Review B, 2001, 63, .	1.1	7
85	Macroscopic Quantum Phenomena in Atomic Bose-Einstein Condensates. , 2001, , 41-50.		0
86	Pipeline model of a Fermi-sea electron pump. Annalen Der Physik, 2000, 9, 776-784.	0.9	3
87	Conductances in normal and normal/superconductor structures. Superlattices and Microstructures, 1999, 25, 627-638.	1.4	16
88	Subsea Electron Transport: Pumping Deep within the Fermi Sea. Physical Review Letters, 1999, 83, 4377-4380.	2.9	41
89	A Fermi Pump. , 1999, , 158-167.		0
90	Transport in normal-superconductor-normal structures with local conservation of current. Physica B: Condensed Matter, 1998, 252, 304-311.	1.3	10

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91	Josephson effect between trapped Bose-Einstein condensates. <i>Physical Review A</i> , 1998, 57, R28-R31.	1.0	255
92	Comment on "Phase and Phase Diffusion of a Split Bose-Einstein Condensate". <i>Physical Review Letters</i> , 1998, 81, 1344-1344.	2.9	57
93	Tunneling Center as a Source of Voltage Rectification in Josephson Junctions. <i>Physical Review Letters</i> , 1998, 80, 829-832.	2.9	63
94	Voltage Rectification in a Driven Asymmetric SQUID. <i>International Journal of Bifurcation and Chaos in Applied Sciences and Engineering</i> , 1998, 08, 849-851.	0.7	1
95	Self-consistent scattering description of transport in normal-superconductor structures. <i>Physical Review B</i> , 1997, 55, 531-543.	1.1	26
96	Effect of QED Fluctuations on the Dynamics of the Macroscopic Phase. , 1997, , 403-413.		1
97	The absence of charge backscattering in the nonequilibrium current of normal - superconductor structures. <i>Journal of Physics Condensed Matter</i> , 1996, 8, L207-L213.	0.7	4
98	Supercurrent flow through an effective double-barrier structure. <i>Physical Review B</i> , 1996, 53, 6693-6704.	1.1	23
99	Current-conserving description of nonlinear transport in NS and NSN structures. <i>European Physical Journal D</i> , 1996, 46, 579-580.	0.4	1
100	Voltage Rectification by a SQUID Ratchet. <i>Physical Review Letters</i> , 1996, 77, 2292-2295.	2.9	240
101	A model of quantum measurement in Josephson junctions. <i>Foundations of Physics</i> , 1995, 25, 681-700.	0.6	6
102	Self-consistent current-voltage characteristics of normal-superconductor interfaces. <i>Journal of Physics Condensed Matter</i> , 1995, 7, L317-L323.	0.7	16
103	Dynamics and Measurement of the Absolute Phase in Macroscopic Quantum Systems. , 1995, , 299-310.		0
104	Recursive Tight-Binding Green'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
105	Macroscopic description of phase-coherent transport in quasi-one-dimensional superconducting structures. <i>Physica B: Condensed Matter</i> , 1994, 203, 467-474.	1.3	5
106	Randomization of the phase after suppression of the Josephson coupling. <i>Physica B: Condensed Matter</i> , 1994, 194-196, 1389-1390.	1.3	47
107	Zero bias supercurrent flow with arbitrary scattering. <i>Physica B: Condensed Matter</i> , 1994, 194-196, 1751-1752.	1.3	2
108	Translational symmetry and microscopic preparation in oscillator models of quantum dissipation. <i>Physica A: Statistical Mechanics and Its Applications</i> , 1994, 212, 181-193.	1.2	25

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109	Crossover from the Josephson effect to bulk superconducting flow. <i>Physical Review B</i> , 1994, 49, 15913-15919.	1.1	67
110	Scattering, dissipation, and transport in mesoscopic systems. <i>Annals of Physics</i> , 1992, 214, 386-438.	1.0	59
111	On the concept of spontaneously broken gauge symmetry in condensed matter physics. <i>Foundations of Physics</i> , 1991, 21, 353-364.	0.6	194
112	Gauge-invariant formulation of electron linear transport. <i>Physical Review Letters</i> , 1991, 67, 2874-2877.	2.9	31
113	Approaches to Quantum Transport in Semiconductor Nanostructures. <i>NATO ASI Series Series B: Physics</i> , 1991, , 223-253.	0.2	0
114	Circular bends in electron waveguides. <i>Physical Review B</i> , 1990, 41, 11887-11891.	1.1	96
115	On the possibility of transistor action based on quantum interference phenomena. <i>Applied Physics Letters</i> , 1989, 54, 350-352.	1.5	298
116	Theory for a quantum modulated transistor. <i>Journal of Applied Physics</i> , 1989, 66, 3892-3906.	1.1	386
117	A broad theoretical approach to the investigation of mesoscopic electron devices. <i>Solid-State Electronics</i> , 1989, 32, 1371-1375.	0.8	3
118	Quantum Devices and Transistors. , 1989, , 147-217.		0
119	Self-energy of a charge near an interface. <i>Surface Science</i> , 1988, 194, 275-311.	0.8	8
120	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.	1.0	15
121	Interaction between tunneling impurities in metals. <i>Physical Review B</i> , 1988, 38, 12263-12276.	1.1	3
122	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.	1.1	16
123	Bulk and surface diffusion of heavy particles in metals: A path-integral approach. <i>Physical Review B</i> , 1987, 36, 7775-7785.	1.1	28
124	The interaction between an electron and the polarization modes of a metal-insulator interface. <i>Solid State Communications</i> , 1987, 63, 245-249.	0.9	6
125	Charge state distributions for ions moving in metals. <i>Nuclear Instruments & Methods in Physics Research B</i> , 1986, 13, 171-174.	0.6	10
126	Lifetime of Image Surface States. <i>Physical Review Letters</i> , 1985, 55, 2348-2350.	2.9	111

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127	Dissipation energy for a charge moving near a metal surface. Surface Science, 1985, 161, 33-38.	0.8	17
128	Charge transfer processes for light ions moving in metals. Physical Review B, 1984, 30, 4878-4880.	1.1	52
129	Trapping probabilities of H ₂ and D ₂ molecules in compact metallic surfaces by electron-hole pair interaction. Surface Science Letters, 1984, 146, L577-L581.	0.1	0
130	Trapping probabilities of H ₂ and D ₂ molecules in compact metallic surfaces by electron-hole pair interaction. Surface Science, 1984, 146, L577-L581.	0.8	12
131	Friction and sticking coefficients of rare gases approaching a metal surface. Surface Science, 1984, 137, 167-180.	0.8	21
132	Charge states for protons moving in an electron gas: intra-atomic correlation and surface effects. Journal of Physics C: Solid State Physics, 1983, 16, 809-815.	1.5	5
133	Dynamic interactions between a charge or an atom and a metal surface. Solid State Communications, 1982, 42, 687-690.	0.9	14