

Simone Fratini

List of Publications by Year in descending order

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82
papers

4,087
citations

159585

30
h-index

114465

63
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82
all docs

82
docs citations

82
times ranked

4672
citing authors

#	ARTICLE	IF	CITATIONS
1	Tunable Fröhlich polarons in organic single-crystal transistors. <i>Nature Materials</i> , 2006, 5, 982-986.	27.5	529
2	Charge transport in high-mobility conjugated polymers and molecular semiconductors. <i>Nature Materials</i> , 2020, 19, 491-502.	27.5	485
3	Substrate-limited electron dynamics in graphene. <i>Physical Review B</i> , 2008, 77, .	3.2	419
4	The Transient Localization Scenario for Charge Transport in Crystalline Organic Materials. <i>Advanced Functional Materials</i> , 2016, 26, 2292-2315.	14.9	284
5	A map of high-mobility molecular semiconductors. <i>Nature Materials</i> , 2017, 16, 998-1002.	27.5	182
6	Bandlike Motion and Mobility Saturation in Organic Molecular Semiconductors. <i>Physical Review Letters</i> , 2009, 103, 266601.	7.8	166
7	Dynamical mean-field theory of the small polaron. <i>Physical Review B</i> , 1997, 56, 4494-4512.	3.2	163
8	Chasing the "Killer" Phonon Mode for the Rational Design of Low-Disorder, High-Mobility Molecular Semiconductors. <i>Advanced Materials</i> , 2019, 31, e1902407.	21.0	126
9	Electrostatic interactions between graphene layers and their environment. <i>Physical Review B</i> , 2008, 77, .	3.2	125
10	Transient localization in crystalline organic semiconductors. <i>Physical Review B</i> , 2011, 83, .	3.2	117
11	Dynamical Mean-Field Theory of Transport of Small Polarons. <i>Physical Review Letters</i> , 2003, 91, 256403.	7.8	93
12	Importance of Spin-Orbit Interaction for the Electron Spin Relaxation in Organic Semiconductors. <i>Physical Review Letters</i> , 2013, 110, 216602.	7.8	62
13	Electronic transport and quantum localization effects in organic semiconductors. <i>Physical Review B</i> , 2012, 86, .	3.2	61
14	Quantum spin liquids unveil the genuine Mott state. <i>Nature Materials</i> , 2018, 17, 773-777.	27.5	61
15	Molecular Fingerprints in the Electronic Properties of Crystalline Organic Semiconductors: From Experiment to Theory. <i>Physical Review Letters</i> , 2012, 108, 256401.	7.8	57
16	Glassy Dynamics in Geometrically Frustrated Coulomb Liquids without Disorder. <i>Physical Review Letters</i> , 2015, 115, 025701.	7.8	55
17	Band Dispersion and Electronic Lifetimes in Crystalline Organic Semiconductors. <i>Physical Review Letters</i> , 2011, 106, 166403.	7.8	52
18	Current saturation and Coulomb interactions in organic single-crystal transistors. <i>New Journal of Physics</i> , 2008, 10, 033031.	2.9	47

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19	Tailoring the Molecular Structure to Suppress Extrinsic Disorder in Organic Transistors. <i>Advanced Materials</i> , 2014, 26, 1254-1260.	21.0	45
20	Structural and Dynamic Disorder, Not Ionic Trapping, Controls Charge Transport in Highly Doped Conducting Polymers. <i>Journal of the American Chemical Society</i> , 2022, 144, 3005-3019.	13.7	45
21	Practical Computation of the Charge Mobility in Molecular Semiconductors Using Transient Localization Theory. <i>Journal of Physical Chemistry C</i> , 2019, 123, 6989-6997.	3.1	40
22	Charge Order at the Frontier between the Molecular and Solid States in $\text{Ba}_3\text{NaRu}_2\text{O}_{10}$. <i>Physical Review Letters</i> , 2012, 108, 217205.	3.2	38
23	Optical properties of small polarons from dynamical mean-field theory. <i>Physical Review B</i> , 2006, 74, .	3.2	38
24	Disorder-Driven Metal-Insulator Transitions in Deformable Lattices. <i>Physical Review Letters</i> , 2017, 118, 036602.	7.8	35
25	Charge and spin order in one-dimensional electron systems with long-range Coulomb interactions. <i>Physical Review B</i> , 2003, 68, .	3.2	33
26	Negative Isotope Effect on Field-Effect Hole Transport in Fully Substituted ^{13}C -Rubrene. <i>Advanced Electronic Materials</i> , 2017, 3, 1700018.	5.1	32
27	Optical absorption from a nondegenerate polaron gas. <i>Physical Review B</i> , 2001, 63, .	3.2	30
28	Anomalous Optical Absorption in the Normal State of Overdoped Cuprates Near the Charge-Ordering Instability. <i>Physical Review Letters</i> , 2002, 88, 147001.	7.8	30
29	Quantum Critical Behavior of Electrons at the Edge of Charge Order. <i>Physical Review Letters</i> , 2010, 105, 036405.	7.8	30
30	Anisotropic intrinsic spin relaxation in graphene due to flexural distortions. <i>Physical Review B</i> , 2013, 88, .	3.2	30
31	Phenomenological model for charge dynamics and optical response of disordered systems: Application to organic semiconductors. <i>Physical Review B</i> , 2014, 89, .	3.2	30
32	Melting of a Wigner crystal in an ionic dielectric. <i>European Physical Journal B</i> , 2000, 14, 99-113.	1.5	27
33	Polaronic features in the optical properties of the Holstein model. <i>Physical Review B</i> , 2007, 76, .	3.2	25
34	Rise and fall of Landau quasiparticles while approaching the Mott transition. <i>Nature Communications</i> , 2021, 12, 1571.	12.8	25
35	Polarization catastrophe in the polaronic Wigner crystal. <i>European Physical Journal B</i> , 2002, 29, 41-49.	1.5	24
36	Spectral properties and isotope effect in strongly interacting systems: Mott-Hubbard insulator versus polaronic semiconductor. <i>Physical Review B</i> , 2005, 72, .	3.2	24

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37	Dynamical localization corrections to band transport. <i>Physical Review Research</i> , 2020, 2, .	3.6	24
38	The origin of Mooij correlations in disordered metals. <i>Npj Quantum Materials</i> , 2018, 3, .	5.2	23
39	Geometrical frustration effects on charge-driven quantum phase transitions. <i>Physical Review B</i> , 2011, 84, .	3.2	22
40	Impact of quantized vibrations on the efficiency of interfacial charge separation in photovoltaic devices. <i>Physical Review B</i> , 2015, 91, .	3.2	22
41	Electronic Structure, Electron-Phonon Coupling, and Charge Transport in Crystalline Rubrene Under Mechanical Strain. <i>Journal of Physical Chemistry C</i> , 2019, 123, 15897-15907.	3.1	22
42	Importance of intramolecular electron spin relaxation in small molecule semiconductors. <i>Physical Review B</i> , 2011, 84, .	3.2	20
43	Emergent Heavy Fermion Behavior at the Wigner-Mott Transition. <i>Physical Review Letters</i> , 2013, 111, 126403.	7.8	20
44	Polaron Crystallization and Melting: Effects of the Long-Range Coulomb Forces. <i>Modern Physics Letters B</i> , 1998, 12, 1003-1012.	1.9	17
45	Carrier dynamics of rubrene single-crystals revealed by transient broadband terahertz spectroscopy. <i>Applied Physics Letters</i> , 2014, 105, .	3.3	17
46	Is the quantum melting of a Polaron Wigner Crystal an insulator-to-superconductor transition?. <i>Physica C: Superconductivity and Its Applications</i> , 2000, 341-348, 229-232.	1.2	16
47	Jahn-Teller, charge and magnetic ordering in half-doped manganese oxides. <i>European Physical Journal B</i> , 2001, 22, 157-165.	1.5	16
48	Hopping dynamics of interacting polarons. <i>Physical Review B</i> , 2009, 79, .	3.2	16
49	Electron-phonon and electron-electron interactions in organic field effect transistors. <i>Journal of Physics and Chemistry of Solids</i> , 2008, 69, 2195-2198.	4.0	14
50	Unconventional metallic conduction in two-dimensional Hubbard-Wigner lattices. <i>Physical Review B</i> , 2009, 80, .	3.2	14
51	Low-Energy Excitations in Quantum Spin Liquids Identified by Optical Spectroscopy. <i>Physical Review Letters</i> , 2018, 121, 056402.	7.8	13
52	Polaronic signatures in the optical properties of the electron-doped cuprate superconductor $\text{Nd}_{2-x}\text{Ce}_x\text{CuO}_4$. <i>Physical Review B</i> , 2009, 79, .	3.2	12
53	Displaced Drude peak and bad metal from the interaction with slow fluctuations.. <i>SciPost Physics</i> , 2021, 11, .	4.9	12
54	Polaron Crystallization and the Metal-Insulator Transition. <i>International Journal of Modern Physics B</i> , 1998, 12, 3131-3136.	2.0	11

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55	Energy radiation of moving cracks. <i>Physical Review B</i> , 2002, 66, .	3.2	10
56	Polaron Dissociation at the Insulator-to-Metal Transition. <i>Modern Physics Letters B</i> , 1997, 11, 1303-1312.	1.9	9
57	Signatures of polaronic charge ordering in optical and dc conductivity using dynamical mean field theory. <i>Physical Review B</i> , 2008, 77, .	3.2	9
58	Doping-induced Dielectric Catastrophe Prompts Free-Carrier Release in Organic Semiconductors. <i>Advanced Materials</i> , 2022, 34, e2105376.	21.0	9
59	Optical and spectral properties of quantum domain walls in the generalized Wigner lattice. <i>Physical Review B</i> , 2007, 75, .	3.2	8
60	Electronic susceptibilities in systems with anisotropic Fermi surfaces. <i>Physical Review B</i> , 2002, 66, .	3.2	7
61	Incipient quantum melting of the one-dimensional Wigner lattice. <i>Synthetic Metals</i> , 2004, 141, 193-196.	3.9	7
62	Avoiding Stripe Order: Emergence of the Supercooled Electron Liquid. <i>Journal of Superconductivity and Novel Magnetism</i> , 2016, 29, 601-604.	1.8	7
63	Pinball liquid phase from Hund's coupling in frustrated transition-metal oxides. <i>Physical Review B</i> , 2015, 91, .	3.2	6
64	Pseudogap metal induced by long-range Coulomb interactions. <i>Physical Review B</i> , 2021, 103, .	3.2	6
65	Enhancement of Wigner crystallization in quasi-low-dimensional solids. <i>Physical Review B</i> , 2006, 73, .	3.2	5
66	Tuning electron-phonon and Coulomb interactions in organic field effect transistors. <i>Physica Status Solidi C: Current Topics in Solid State Physics</i> , 2008, 5, 718-721.	0.8	5
67	Multiorbital kinetic effects on charge ordering of frustrated electrons on the triangular lattice. <i>Physical Review B</i> , 2015, 91, .	3.2	5
68	Interface polaron formation in organic field-effect transistors. <i>Physical Review B</i> , 2010, 82, .	3.2	3
69	Inhomogeneous dynamical mean-field theory of the small polaron problem. <i>Journal of Physics Condensed Matter</i> , 2018, 30, 465902.	1.8	3
70	On the stability of hole crystals in layered cuprates. <i>European Physical Journal B</i> , 2004, 42, 305-308.	1.5	2
71	Fate of the Wigner crystal on the square lattice. <i>European Physical Journal Special Topics</i> , 2005, 131, 247-250.	0.2	2
72	Quantum and/or thermal melting of a polaron Wigner crystal. <i>European Physical Journal Special Topics</i> , 1999, 09, Pr10-259-Pr10-261.	0.2	1

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73	OPTICAL CONDUCTIVITY OF THE HOLSTEIN MODEL AT LOW DENSITY. International Journal of Modern Physics B, 2000, 14, 3020-3025.	2.0	1
74	Polarization catastrophe in doped cuprates and metal-ammonia solutions. Metal-to-superconductor transition versus phase separation. European Physical Journal Special Topics, 2002, 12, 227-230.	0.2	1
75	Magnetoresistance of itinerant electrons interacting with local spins. Physical Review B, 2004, 70, .	3.2	1
76	Optical properties of lattice/magnetic small polarons from DMFT. Journal of Physics and Chemistry of Solids, 2008, 69, 2164-2167.	4.0	1
77	Variational wave function for generalized Wigner lattices in one dimension. European Physical Journal Special Topics, 2002, 12, 69-72.	0.2	1
78	Wigner crystallization in low dimensional materials. European Physical Journal Special Topics, 2005, 131, 277-280.	0.2	1
79	Spectral properties of a non-degenerate polaron gas. Physica A: Statistical Mechanics and Its Applications, 2000, 280, 193-198.	2.6	0
80	Optical properties of the Holstein-t \hat{e} J model from dynamical mean-field theory. Physica B: Condensed Matter, 2008, 403, 1181-1183.	2.7	0
81	Optical properties of lattice/spin polarons in underdoped cuprates. Journal of Physics: Conference Series, 2008, 108, 012021.	0.4	0
82	Optical conductivity of spin/lattice polarons in underdoped copper oxides. Journal of Electron Spectroscopy and Related Phenomena, 2010, 181, 28-30.	1.7	0