

Joseph Orenstein

List of Publications by Year in descending order

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64
papers

6,158
citations

109321

35
h-index

123424

61
g-index

66
all docs

66
docs citations

66
times ranked

5932
citing authors

#	ARTICLE	IF	CITATIONS
1	Advances in the Physics of High-Temperature Superconductivity. Science, 2000, 288, 468-474.	12.6	786
2	Vanishing of phase coherence in underdoped Bi ₂ Sr ₂ CaCu ₂ O ₈ + δ . Nature, 1999, 398, 221-223.	27.8	477
3	Emergence of the persistent spin helix in semiconductor quantum wells. Nature, 2009, 458, 610-613.	27.8	474
4	Exact SU(2) Symmetry and Persistent Spin Helix in a Spin-Orbit Coupled System. Physical Review Letters, 2006, 97, 236601.	7.8	467
5	Giant anisotropic nonlinear optical response in transition metal monpnictide Weyl semimetals. Nature Physics, 2017, 13, 350-355.	16.7	325
6	From a Single-Band Metal to a High-Temperature Superconductor via Two Thermal Phase Transitions. Science, 2011, 331, 1579-1583.	12.6	292
7	Large magneto-optical Kerr effect and imaging of magnetic octupole domains in an antiferromagnetic metal. Nature Photonics, 2018, 12, 73-78.	31.4	260
8	Linear and nonlinear optical properties of BiFeO ₃ . Applied Physics Letters, 2008, 92, .	3.3	213
9	Observation of spin Coulomb drag in a two-dimensional electron gas. Nature, 2005, 437, 1330-1333.	27.8	201
10	Confinement-Induced Berry Phase and Helicity-Dependent Photocurrents. Physical Review Letters, 2010, 105, 026805.	7.8	173
11	Terahertz time-domain spectroscopy. , 1998, , 7-50.		135
12	Semiclassical theory of nonlinear magneto-optical responses with applications to topological Dirac/Weyl semimetals. Physical Review B, 2016, 94, .	3.2	132
13	Helicity-dependent photocurrents in the chiral Weyl semimetal RhSi. Science Advances, 2020, 6, eaba0509.	10.3	129
14	Two-phonon coupling to the antiferromagnetic phase transition in multiferroic BiFeO ₃ . Applied Physics Letters, 2008, 92, .	3.3	116
15	Diagrammatic approach to nonlinear optical response with application to Weyl semimetals. Physical Review B, 2019, 99, .	3.2	110
16	Nodal Quasiparticle Lifetime in the Superconducting State of Bi ₂ Sr ₂ CaCu ₂ O ₈ + δ . Physical Review Letters, 2000, 85, 2569-2572.	7.8	105
17	Photoinduced Changes of Reflectivity in Single Crystals of YBa ₂ Cu ₃ O _{6.5} (Ortho II). Physical Review Letters, 2002, 88, 137001.	7.8	99
18	Adsorption-controlled molecular-beam epitaxial growth of BiFeO ₃ . Applied Physics Letters, 2007, 91, .	3.3	91

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19	Single-quasiparticle stability and quasiparticle-pair decay in YBa ₂ Cu ₃ O _{6.5} . Physical Review B, 2004, 70, .	3.2	89
20	Antiferromagnetic Resonance and Terahertz Continuum in Cu_2O . Physical Review Letters, 2017, 119, 227201.	7.8	85
21	Resonance-enhanced optical nonlinearity in the Weyl semimetal TaAs. Physical Review B, 2018, 98, .	3.2	83
22	Magnon sidebands and spin-charge coupling in bismuth ferrite probed by nonlinear optical spectroscopy. Physical Review B, 2009, 79, .	3.2	82
23	Nondiffusive Spin Dynamics in a Two-Dimensional Electron Gas. Physical Review Letters, 2007, 98, 076604.	7.8	79
24	Electrical switching in a magnetically intercalated transition metal dichalcogenide. Nature Materials, 2020, 19, 153-157.	27.5	72
25	Observation of the Quasiparticle Hall Effect in Superconducting YBa ₂ Cu ₃ O _{7-δ} . Physical Review Letters, 1994, 73, 1537-1540.	7.8	70
26	Kerr effect as evidence of gyrotropic order in the cuprates. Physical Review B, 2013, 87, .	3.2	67
27	Phase-Sensitive Measurements of Vortex Dynamics in the Terahertz Domain. Physical Review Letters, 1995, 74, 3265-3268.	7.8	63
28	New collective mode in YBa ₂ Cu ₃ O _{7-δ} . Physical Review Letters, 2011, 107, 067002.	3.2	62
29	Berry phase mechanism for optical gyrotropy in stripe-ordered cuprates. Physical Review B, 2013, 87, .	3.2	58
30	Optical Gyrotropy from Axion Electrodynamics in Momentum Space. Physical Review Letters, 2015, 115, 117403.	7.8	54
31	Topology and Symmetry of Quantum Materials via Nonlinear Optical Responses. Annual Review of Condensed Matter Physics, 2021, 12, 247-272.	14.5	54
32	Field evolution of magnons in Cu_2O by high-resolution polarized terahertz spectroscopy. Physical Review B, 2018, 98, .	3.2	49
33	Three-state nematicity in the triangular lattice antiferromagnet Fe _{1/3} NbS ₂ . Nature Materials, 2020, 19, 1062-1067.	27.5	47
34	Spin-charge-lattice coupling through resonant multimagnon excitations in multiferroic BiFeO ₃ . Applied Physics Letters, 2009, 94, 161905.	3.3	43
35	Optical Nonreciprocity in Magnetic Structures Related to High-T _c Superconductors. Physical Review Letters, 2011, 107, 067002.	7.8	40
36	Time-Resolved Optical Reflectivity of the Electron-Doped Nd _{2-x} Cu _{1-x} O ₂ Superconductor: Evidence for an Interplay between Competing Orders. Physical Review Letters, 2013, 110, 217002.	3.8	36

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37	Terahertz time-domain spectroscopy of transient metallic and superconducting states. <i>Physical Review B</i> , 2015, 92, .	3.2	34
38	Doppler velocimetry of spin propagation in a two-dimensional electron gas. <i>Nature Physics</i> , 2012, 8, 153-157.	16.7	33
39	Absolute phase measurement in heterodyne detection of transient gratings. <i>Optics Letters</i> , 2004, 29, 2109.	3.3	32
40	Superconducting fluctuations in $\text{Bi}_2\text{Sr}_2\text{Ca}_{1-x}\text{Dy}_x\text{Cu}_2\text{O}_8$ as seen by terahertz spectroscopy. <i>Annalen Der Physik</i> , 2006, 15, 596-605.	2.4	28
41	Random walk approach to spin dynamics in a two-dimensional electron gas with spin-orbit coupling. <i>Physical Review B</i> , 2010, 82, .	3.2	27
42	The rate of quasiparticle recombination probes the onset of coherence in cuprate superconductors. <i>Scientific Reports</i> , 2016, 6, 23610.	3.3	27
43	Current-induced second harmonic generation in inversion-symmetric Dirac and Weyl semimetals. <i>Physical Review B</i> , 2021, 104, .	3.2	25
44	Coherent Propagation of Spin Helices in a Quantum-Well Confined Electron Gas. <i>Physical Review Letters</i> , 2012, 109, 246603.	7.8	22
45	Imaging Antiferromagnetic Order and Strain in Optimally Doped BaFe_2As_2 . http://www.w3.org/1998/Math/MathML display="inline"><mml:mrow><mml:msub><mml:mrow><mml:mi>BaFe</mml:mi></mml:mrow><mml:mrow><mml:mn>2</mml:mn></mml:mrow></mml:msub></mml:mrow></mml:math> stretchy="false"></mml:mo><mml:mi>As</mml:mi></mml:mo>, </mml:mo><mml:mi>Tj</mml:mi> ETQq1 1 0.784314 rgBT /Overlock 10 Tf 50 4		
46	Observation of Coherent Helimagnons and Gilbert Damping in an Itinerant Magnet. <i>Physical Review Letters</i> , 2012, 109, 247204.	7.8	19
47	Mapping domain-wall topology in the magnetic Weyl semimetal CeAlSi. <i>Physical Review B</i> , 2021, 104, .	3.2	17
48	Observation of a phase transition within the domain walls of ferromagnetic $\text{Co}_3\text{Sn}_2\text{S}_2$. <i>Nature Communications</i> , 2022, 13, .	12.8	17
49	Phase transition beneath the superconducting dome in $\text{BaFe}_2(\text{As}_{1-x}\text{P}_x)_2$. <i>Physical Review B</i> , 2015, 92, .	3.2	16
50	Direct Measurement of Helicoid Surface States in RhSi Using Nonlinear Optics. <i>Physical Review Letters</i> , 2021, 127, 157405.	7.8	16
51	Determination of the spin-flip time in ferromagnetic SrRuO_3 . http://www.w3.org/1998/Math/MathML display="inline"><mml:mrow><mml:msub><mml:mrow></mml:mrow></mml:msub></mml:mrow></mml:math>from	3.2	15
52	Photoexcited states of the harmonic honeycomb iridate LiIrO_4 . http://www.w3.org/1998/Math/MathML <mml:mi>Li</mml:mi></mml:math></mml:msub></mml:math> mathvariant="normal">IrO</mml:mi></mml:math>. <i>Physical Review B</i> , 2015, 92, .	3.2	15
53	Nonlinear nanoelectrodynamics of a Weyl metal. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2021, 118, .	7.1	15
54	Optical conductivity of a superfluid density wave. <i>Physica C: Superconductivity and Its Applications</i> , 2003, 390, 243-248.	1.2	12

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55	Low-temperature AC conductivity of Bi ₂ Sr ₂ CaCu ₂ O ₈ + δ . Physica B: Condensed Matter, 2000, 280, 212-213.	2.7	10
56	Nonequilibrium THz conductivity of Bi ₂ Sr ₂ CaCu ₂ O ₈ + δ . Physica C: Superconductivity and Its Applications, 2004, 408-410, 729-730.	1.2	10
57	Breaking through to the other side. Nature Physics, 2010, 6, 566-567.	16.7	10
58	Effective thermal boundary resistance from thermal decoupling of magnons and phonons in SrRuO_3 films. Physical Review B, 2010, 82, .	3.2	7
59	Resonant magneto-optic Kerr effect in the magnetic topological insulator Cr_2Te_3 . Physical Review B, 2015, 92, .	3.2	7
60	Transient Gratings Formed by Nonequilibrium Quasiparticles in YBa ₂ Cu ₃ O _{6.5} . Journal of Superconductivity and Novel Magnetism, 2004, 17, 117-120.	0.5	2
61	Giant anisotropic nonlinear optical response in Weyl semimetals. , 2018, , .		1
62	Coherent terahertz spectroscopy of the vortex-state of cuprate superconductors. Ferroelectrics, 1996, 177, 33-41.	0.6	0
63	Superconducting gap excitations in MgB ₂ revealed via time-domain thz spectroscopy. , 0, , .		0
64	Doppler velocimetry of spin and charge currents in the 2D Fermi gas. EPJ Web of Conferences, 2013, 41, 03017.	0.3	0