

Brian J Moritz

List of Publications by Year in descending order

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138
papers

6,806
citations

50170

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141
all docs

141
docs citations

141
times ranked

6842
citing authors

#	ARTICLE	IF	CITATIONS
1	Quantum spin Hall state in monolayer 1T'-WTe ₂ . Nature Physics, 2017, 13, 683-687.	6.5	596
2	Symmetry-breaking orbital anisotropy observed for detwinned Ba(Fe _{1-x} Co _x) ₂ Tj ETQq0 0 0 rgBT /Overlock 10 the National Academy of Sciences of the United States of America, 2011, 108, 6878-6883.	3.3	464
3	Electronic structure of the parent compound of superconducting infinite-layer nickelates. Nature Materials, 2020, 19, 381-385.	13.3	205
4	Theory of Floquet band formation and local pseudospin textures in pump-probe photoemission of graphene. Nature Communications, 2015, 6, 7047.	5.8	203
5	Orbital order and spontaneous orthorhombicity in iron pnictides. Physical Review B, 2010, 82, .	1.1	190
6	Solid Electrolyte Interphase on Native Oxide-Terminated Silicon Anodes for Li-Ion Batteries. Joule, 2019, 3, 762-781.	11.7	185
7	Femtosecond electron-phonon lock-in by photoemission and x-ray free-electron laser. Science, 2017, 357, 71-75.	6.0	177
8	Evidence for weak electronic correlations in iron pnictides. Physical Review B, 2009, 80, .	1.1	176
9	Tailoring the nature and strength of electron-phonon interactions in the SrTiO ₃ (001) 2D electron liquid. Nature Materials, 2016, 15, 835-839.	13.3	171
10	Numerical evidence of fluctuating stripes in the normal state of high- <i>T_c</i> cuprate superconductors. Science, 2017, 358, 1161-1164.	6.0	132
11	Persistent spin excitations in doped antiferromagnets revealed by resonant inelastic light scattering. Nature Communications, 2014, 5, 3314.	5.8	120
12	Systematic study of electron-phonon coupling to oxygen modes across the cuprates. Physical Review B, 2010, 82, .	1.1	119
13	Magnetic excitations in infinite-layer nickelates. Science, 2021, 373, 213-216.	6.0	110
14	Asymmetry of collective excitations in electron- and hole-doped cuprate superconductors. Nature Physics, 2014, 10, 883-889.	6.5	106
15	Dispersive charge density wave excitations in Bi ₂ Sr ₂ CaCu ₂ O ₈ + δ . Nature Physics, 2017, 13, 952-956.	6.5	101
16	Dynamical time-reversal symmetry breaking and photo-induced chiral spin liquids in frustrated Mott insulators. Nature Communications, 2017, 8, 1192.	5.8	100
17	Three-dimensional collective charge excitations in electron-doped copper oxide superconductors. Nature, 2018, 563, 374-378.	13.7	100
18	Rapid change of superconductivity and electron-phonon coupling through critical doping in Bi-2212. Science, 2018, 362, 62-65.	6.0	98

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19	Doping-Dependent Nodal Fermi Velocity of the High-Temperature Superconductor $\text{Bi}_2\text{O}_8\text{F}$ Using High-Resolution Angle-Resolved Photoemission Spectroscopy. Physical Review Letters, 2010, 104, 267002.	2.9	92
20	Direct spectroscopic evidence for phase competition between the pseudogap and superconductivity in $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_{8+\delta}$. Nature Materials, 2015, 14, 37-42.	13.3	92
21	Phase fluctuations and the absence of topological defects in a photo-excited charge-ordered nickelate. Nature Communications, 2012, 3, 838.	5.8	85
22	Stripe order from the perspective of the Hubbard model. Npj Quantum Materials, 2018, 3, .	1.8	83
23	Examining Electron-Boson Coupling Using Time-Resolved Spectroscopy. Physical Review X, 2013, 3, .	2.8	82
24	Spectroscopic Signature of Oxidized Oxygen States in Peroxides. Journal of Physical Chemistry Letters, 2018, 9, 6378-6384.	2.1	80
25	Direct observation of Higgs mode oscillations in the pump-probe photoemission spectra of electron-phonon mediated superconductors. Physical Review B, 2015, 92, .	1.1	78
26	Distinct Electronic Structure for the Extreme Magnetoresistance in YSb. Physical Review Letters, 2016, 117, 267201.	2.9	77
27	Strange metallicity in the doped Hubbard model. Science, 2019, 366, 987-990.	6.0	77
28	Theoretical description of high-order harmonic generation in solids. New Journal of Physics, 2013, 15, 023003.	1.2	73
29	All-optical materials design of chiral edge modes in transition-metal dichalcogenides. Nature Communications, 2016, 7, 13074.	5.8	71
30	Role of Lattice Coupling in Establishing Electronic and Magnetic Properties in Quasi-One-Dimensional Cuprates. Physical Review Letters, 2013, 110, 265502.	2.9	70
31	Breakdown of the Migdal-Eliashberg theory: A determinant quantum Monte Carlo study. Physical Review B, 2018, 97, .	1.1	68
32	Competition Between Antiferromagnetic and Charge-Density-Wave Order in the Half-Filled Hubbard-Holstein Model. Physical Review Letters, 2012, 109, 246404.	2.9	64
33	Anomalously strong near-neighbor attraction in doped 1D cuprate chains. Science, 2021, 373, 1235-1239.	6.0	62
34	Direct observation of bulk charge modulations in optimally doped $\text{Bi}_2\text{O}_8\text{F}$. Physical Review B, 2014, 89, .	1.1	60
35	Determinant quantum Monte Carlo study of the two-dimensional single-band Hubbard-Holstein model. Physical Review B, 2013, 87, .	1.1	57
36	Electronic Structure Trends Across the Rare-Earth Series in Superconducting Infinite-Layer Nickelates. Physical Review X, 2021, 11, .	2.8	57

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37	Finite-temperature spin dynamics and phase transitions in spin-orbital models. Physical Review B, 2009, 80, .	1.1	56
38	Probing LaMO ₃ Metal and Oxygen Partial Density of States Using X-ray Emission, Absorption, and Photoelectron Spectroscopy. Journal of Physical Chemistry C, 2015, 119, 2063-2072.	1.5	56
39	Strong energy-momentum dispersion of phonon-dressed carriers in the lightly doped band insulator SrTiO ₃ . New Journal of Physics, 2010, 12, 023004.	1.2	55
40	Why LiFePO ₄ is a safe battery electrode: Coulomb repulsion induced electron-state reshuffling upon lithiation. Physical Chemistry Chemical Physics, 2015, 17, 26369-26377.	1.3	52
41	Directly Characterizing the Relative Strength and Momentum Dependence of Electron-Phonon Coupling Using Resonant Inelastic X-Ray Scattering. Physical Review X, 2016, 6, .	2.8	51
42	Orbital and spin character of doped carriers in infinite-layer nickelates. Physical Review B, 2021, 104, .	1.1	50
43	Effect of strong correlations on the high energy anomaly in hole- and electron-doped high-T _c superconductors. New Journal of Physics, 2009, 11, 093020.	1.2	48
44	Real-Time Manifestation of Strongly Coupled Spin and Charge Order Parameters in Stripe-Ordered Crystals Using Time-Resolved Resonant X-Ray Diffraction. Physical Review Letters, 2013, 110, 127404.	2.9	48
45	Using RIXS to Uncover Elementary Charge and Spin Excitations. Physical Review X, 2016, 6, .	2.8	48
46	A momentum-dependent perspective on quasiparticle interference in Bi ₂ Sr ₂ CaCu ₂ O ₈ + δ . Nature Physics, 2009, 5, 718-721.	6.5	47
47	Synergistic Polaron Formation in the Hubbard-Holstein Model at Small Doping. Physical Review Letters, 2006, 97, 056402.	2.9	45
48	Effect of dynamical spectral weight redistribution on effective interactions in time-resolved spectroscopy. Physical Review B, 2014, 90, .	1.1	45
49	Dispersion, damping, and intensity of spin excitations in the monolayer Bi ₂ Te ₃ . Physical Review B, 2018, 98, .	1.1	45
50	Characterizing the three-orbital Hubbard model with determinant quantum Monte Carlo. Physical Review B, 2016, 93, .	1.1	42
51	Origin of the low critical observing temperature of the quantum anomalous Hall effect in V-doped (Bi, Sb) ₂ Te ₃ film. Scientific Reports, 2016, 6, 32732.	1.6	42
52	Review of the Theoretical Description of Time-Resolved Angle-Resolved Photoemission Spectroscopy in Electron-Phonon Mediated Superconductors. Annalen Der Physik, 2017, 529, 1600235.	0.9	41
53	Balancing Act: Evidence for a Strong Subdominant d-Wave Pairing Channel in Ba _{1-x} Bi _x Fe ₂ As ₂ . Physical Review Letters, 2017, 118, 177001.	2.8	40
54	Unraveling the Nature of Charge Excitations in Momentum-Resolved Cu _{2-x} S _x O ₂ Edge Resonant Inelastic X-Ray Scattering. Physical Review Letters, 2010, 105, 177401.	2.9	39

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55	Dynamic competition between spin-density wave order and superconductivity in underdoped $\text{Ba}_{1-x}\text{K}_x\text{Fe}_2\text{As}_2$. Nature Communications, 2014, 5, 3711.	5.8	38
56	Theoretical understanding of photon spectroscopies in correlated materials in and out of equilibrium. Nature Reviews Materials, 2018, 3, 312-323.	23.3	38
57	Mapping of unoccupied states and relevant bosonic modes via the time-dependent momentum distribution. Physical Review B, 2013, 87, .	1.1	36
58	Light-Enhanced Spin Fluctuations and d -Wave Superconductivity at a Phase Boundary. Physical Review Letters, 2018, 120, 246402.	2.9	36
59	Spectroscopic fingerprint of charge order melting driven by quantum fluctuations in a cuprate. Nature Physics, 2021, 17, 53-57.	6.5	36
60	CuK-edge resonant inelastic x-ray scattering in edge-sharing cuprates. Physical Review B, 2008, 77, .	1.1	34
61	Phonon-Mediated Long-Range Attractive Interaction in One-Dimensional Cuprates. Physical Review Letters, 2021, 127, 197003.	2.9	34
62	Vector difference calculus for physical lattice models. Physical Review E, 1999, 59, 1217-1233.	0.8	33
63	Time-resolved photoemission of correlated electrons driven out of equilibrium. Physical Review B, 2010, 81, .	1.1	33
64	Producing coherent excitations in pumped Mott antiferromagnetic insulators. Physical Review B, 2017, 96, .	1.1	33
65	Uncovering selective excitations using the resonant profile of indirect inelastic x-ray scattering in correlated materials: observing two-magnon scattering and relation to the dynamical structure factor. New Journal of Physics, 2012, 14, 113038.	1.2	32
66	Direct characterization of photoinduced lattice dynamics in BaFe_2As_2 . Nature Communications, 2015, 6, 7377.	5.8	32
67	Raman and fluorescence characteristics of resonant inelastic X-ray scattering from doped superconducting cuprates. Scientific Reports, 2016, 6, 19657.	1.6	32
68	Fermi surface reconstruction in electron-doped cuprates without antiferromagnetic long-range order. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 3449-3453.	3.3	32
69	Charge-orbital-lattice coupling effects in the d -wave superconducting profile of one-dimensional cuprates. Physical Review B, 2014, 89, .		
70	Doping evolution of spin and charge excitations in the Hubbard model. Physical Review B, 2015, 92, .	1.1	30
71	Coulombically-stabilized oxygen hole polarons enable fully reversible oxygen redox. Energy and Environmental Science, 2021, 14, 4858-4867.	15.6	29
72	Electron-Mediated Relaxation Following Ultrafast Pumping of Strongly Correlated Materials: Model Evidence of a Correlation-Tuned Crossover between Thermal and Nonthermal States. Physical Review Letters, 2013, 111, 077401.	2.9	27

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73	Origin of strong dispersion in Hubbard insulators. Physical Review B, 2015, 92, .	1.1	27
74	Doping evolution of the oxygen K -edge x-ray absorption spectra of cuprate superconductors using a three-orbital Hubbard model. Physical Review B, 2013, 87, .	1.1	25
75	Theory for time-resolved resonant inelastic x-ray scattering. Physical Review B, 2019, 99, .	1.1	23
76	Resonant inelastic x-ray scattering studies of magnons and bimagnons in the lightly doped cuprate $La_{1-x}Mn_2$. Physical Review B, 2018, 97, .	1.1	22
77	Frustrated spin order and stripe fluctuations in FeSe. Communications Physics, 2019, 2, .	2.0	21
78	Renormalization of spectra by phase competition in the half-filled Hubbard-Holstein model. Physical Review B, 2015, 91, .	1.1	19
79	Revealing the Coulomb interaction strength in a cuprate superconductor. Physical Review B, 2017, 96, .	1.1	19
80	Using Nonequilibrium Dynamics to Probe Competing Orders in a Mott-Peierls System. Physical Review Letters, 2016, 116, 086401.	2.9	18
81	Amplitude mode oscillations in pump-probe photoemission spectra from a d-wave superconductor. Physical Review B, 2017, 96, .	1.1	18
82	Spin and charge excitations in artificial hole- and electron-doped infinite layer cuprate superconductors. Physical Review B, 2017, 96, .	1.1	17
83	Effects of an additional conduction band on the singlet-antiferromagnet competition in the periodic Anderson model. Physical Review B, 2017, 95, .	1.1	17
84	Microscopic origin of Cooper pairing in the iron-based superconductor $Ba_{1-x}K_xFe_2As_2$. Npj Quantum Materials, 2018, 3, .	1.8	17
85	Superconductivity, charge density waves, and bipolarons in the Holstein model. Physical Review B, 2021, 103, .	1.1	17
86	Material and Doping Dependence of the Nodal and Antinodal Dispersion Renormalizations in Single- and Multilayer Cuprates. Advances in Condensed Matter Physics, 2010, 2010, 1-13.	0.4	16
87	Fidelity study of the superconducting phase diagram in the two-dimensional single-band Hubbard model. Physical Review B, 2011, 84, .	1.1	16
88	Decrease of d-wave pairing strength in spite of the persistence of magnetic excitations in the overdoped Hubbard model. Physical Review B, 2017, 96, .	1.1	16
89	Numerical exploration of spontaneous broken symmetries in multiorbital Hubbard models. Physical Review B, 2014, 90, .	1.1	15
90	Real-Space Visualization of Remnant Mott Gap and Magnon Excitations. Physical Review Letters, 2014, 112, 156402.	2.9	15

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91	Paradeisos: A perfect hashing algorithm for many-body eigenvalue problems. Computer Physics Communications, 2018, 224, 81-89.	3.0	15
92	DC Hall coefficient of the strongly correlated Hubbard model. Npj Quantum Materials, 2020, 5, .	1.8	15
93	Electronic structure of superconducting nickelates probed by resonant photoemission spectroscopy. Matter, 2022, 5, 1806-1815.	5.0	15
94	Numerically exploring the 1D-2D dimensional crossover on spin dynamics in the doped Hubbard model. Physical Review B, 2017, 96, .	1.1	14
95	Triangle lattice Green functions for vector fields. Journal of Physics A, 2001, 34, 589-602.	1.6	13
96	Investigation of particle-hole asymmetry in the cuprates via electronic Raman scattering. Physical Review B, 2011, 84, .	1.1	13
97	Time-resolved resonant inelastic x-ray scattering in a pumped Mott insulator. Physical Review B, 2020, 101, .	1.1	13
98	Time-dependent charge-order and spin-order recovery in striped systems. Physical Review B, 2013, 88, .	1.1	12
99	Doping dependence of ordered phases and emergent quasiparticles in the doped Hubbard-Holstein model. Physical Review B, 2017, 96, .	1.1	12
100	Frustrated magnetism from local moments in FeSe. Physical Review B, 2019, 99, .	1.1	12
101	Resonant enhancement of charge density wave diffraction in the rare-earth tritellurides. Physical Review B, 2012, 85, .	1.1	11
102	Continuous spectra of a family of lattices containing the modified rectangle lattice of Dhar. Physical Review B, 2005, 71, .	1.1	10
103	Insights on the cuprate high energy anomaly observed in ARPES. Journal of Electron Spectroscopy and Related Phenomena, 2010, 181, 31-34.	0.8	10
104	Numerical investigation of spin excitations in a doped spin chain. Physical Review B, 2019, 99, .	1.1	10
105	Influence of magnetism and correlation on the spectral properties of doped Mott insulators. Physical Review B, 2018, 97, .	1.1	9
106	Anisotropy of the magnetic and transport properties of EuZn_2As_2 . Physical Review B, 2022, 105, .	1.1	9
107	Finding Lie groups that reduce the order of discrete dynamical systems. Journal of Physics A, 1998, 31, 7379-7402.	1.6	8
108	High-energy anomaly in $\text{Nd}_2\text{xCe}_x\text{CuO}_4$ investigated by angle-resolved photoemission spectroscopy and quantum Monte Carlo simulations. Physical Review B, 2011, 83, .	1.1	8

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109	Fidelity study of superconductivity in extended Hubbard models. Physical Review B, 2015, 92, .	1.1	8
110	Ab initio molecular dynamics study of SiO ₂ lithiation. Chemical Physics Letters, 2020, 739, 136933.	1.2	8
111	Observing photo-induced chiral edge states of graphene nanoribbons in pump-probe spectroscopies. Npj Quantum Materials, 2020, 5, .	1.8	8
112	Emergence of quasiparticles in a doped Mott insulator. Communications Physics, 2020, 3, .	2.0	8
113	Biexciton Condensation in Electron-Hole-Doped Hubbard Bilayers: A Sign-Problem-Free Quantum Monte Carlo Study. Physical Review Letters, 2020, 124, 077601.	2.9	8
114	Nonlocal Effects on Magnetism in the Diluted Magnetic Semiconductor $\text{Ga}_{1-x}\text{Mn}_x$ Physical Review Letters, 2010, 104, 037201.	2.9	7
115	Revealing the degree of magnetic frustration by non-magnetic impurities. New Journal of Physics, 2011, 13, 043025.	1.2	7
116	Quasiparticle interference and the interplay between superconductivity and density wave order in the cuprates. Physical Review B, 2012, 86, .	1.1	7
117	Evolution of the electronic structure in $\text{Ta}_{2-x}\text{M}_{2x}$ across the structural transition revealed by resonant inelastic x-ray scattering. Physical Review B, 2021, 103, .	1.1	7
118	Suppression of superconductivity in the Hubbard model by buckling and breathing phonons. Journal of Physics Condensed Matter, 2012, 24, 475603.	0.7	6
119	X-ray scattering from light-driven spin fluctuations in a doped Mott insulator. Communications Physics, 2021, 4, .	2.0	6
120	Magnon Splitting Induced by Charge Transfer in the Three-Orbital Hubbard Model. Physical Review Letters, 2018, 120, 246401.	2.9	5
121	Intertwined States at Finite Temperatures in the Hubbard Model. Journal of the Physical Society of Japan, 2021, 90, 111010.	0.7	5
122	Magnon heat transport in a two-dimensional Mott insulator. Physical Review B, 2022, 105, .	1.1	5
123	Temporal response of nonequilibrium correlated electrons. Computer Physics Communications, 2011, 182, 109-111.	3.0	4
124	Pressure Effects on the $4f$ Electronic Structure of Light Lanthanides. Physical Review Letters, 2019, 122, 066401.	2.9	4
125	Numerical approaches for calculating the low-field dc Hall coefficient of the doped Hubbard model. Physical Review Research, 2021, 3, .	1.3	4
126	Sign-free determinant quantum Monte Carlo study of excitonic density orders in a two-orbital Hubbard-Kanamori model. Physical Review B, 2022, 105, .	1.1	4

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127	Coincidence between energy gaps and Kohn anomalies in conventional superconductors. Physical Review B, 2011, 84, .	1.1	3
128	Nonequilibrium lattice-driven dynamics of stripes in nickelates using time-resolved x-ray scattering. Physical Review B, 2017, 95, .	1.1	3
129	Electronic structure of the quadrupolar ordered heavy-fermion compound YbRu ₂ Ge ₂ measured by angle-resolved photoemission. Physical Review B, 2019, 99, .	1.1	3
130	Tendencies of enhanced electronic nematicity in the Hubbard model and a comparison with Raman scattering on high-temperature superconductors. Physical Review B, 2021, 103, .	1.1	3
131	Web-based methods for X-ray and photoelectron spectroscopies. Computational Materials Science, 2021, 200, 110814.	1.4	3
132	Orbitally selective resonant photodoping to enhance superconductivity. Physical Review B, 2021, 104, .	1.1	3
133	Numerical studies of photon-based spectroscopies on high- superconductors. Computer Physics Communications, 2011, 182, 106-108.	3.0	2
134	On the Nature of Valence Charge and Spin Excitations via Multi-Orbital Hubbard Models for Infinite-Layer Nickelates. Frontiers in Physics, 2022, 10, .	1.0	1
135	TOPOLOGICAL LATTICE MODEL OF ELECTRONS COUPLED TO A CLASSICAL POLARIZATION FIELD. International Journal of Modern Physics B, 2001, 15, 3336-3343.	1.0	0
136	DYNAMICS OF CREMONA MAPS FROM PHYSICAL MODELS. International Journal of Modern Physics B, 2001, 15, 3279-3286.	1.0	0
137	Publisher's Note: Effect of dynamical spectral weight redistribution on effective interactions in time-resolved spectroscopy [Phys. Rev. B, 075126 (2014)]. Physical Review B, 2014, 90, .	1.1	0
138	Tender X-rays. Nature Materials, 2019, 18, 537-538.	13.3	0