

W N Hardy

List of Publications by Year in descending order

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119
papers

7,825
citations

53794

45
h-index

48315

88
g-index

119
all docs

119
docs citations

119
times ranked

4611
citing authors

#	ARTICLE	IF	CITATIONS
1	Three-dimensional electronic structure of LiFeAs. Physical Review B, 2022, 105, .	3.2	4
2	Enhanced charge density wave coherence in a light-quenched, high-temperature superconductor. Science, 2022, 376, 860-864.	12.6	22
3	Laser cooling of antihydrogen atoms. Nature, 2021, 592, 35-42.	27.8	47
4	Locally commensurate charge-density wave with three-unit-cell periodicity in YBa ₂ Cu ₃ O _y . Nature Communications, 2021, 12, 3274.	12.8	19
5	Thermal Hall conductivity in the cuprate Mott insulators Nd ₂ CuO ₄ and Sr ₂ CuO ₂ Cl ₂ . Nature Communications, 2020, 11, 5325.	12.8	42
6	Orbital symmetries of charge density wave order in YBa ₂ Cu ₃ O ₆₊ . Science Advances, 2020, 6, .	10.3	9
7	Spatially inhomogeneous competition between superconductivity and the charge density wave in YBa ₂ Cu ₃ O _{6.67} . Nature Communications, 2020, 11, 990.	12.8	13
8	Nuclear magnetic resonance study of charge density waves under hydrostatic pressure in YBa ₂ Cu ₃ O _{6.67} . Physical Review B, 2019, 100, .	3.2	14
9	Resolving the nature of electronic excitations in resonant inelastic x-ray scattering. Physical Review B, 2019, 99, .	3.2	11
10	Characterization of the 1S ⁺ 2S transition in antihydrogen. Nature, 2018, 557, 71-75.	27.8	107
11	Pseudogap temperature T^* of cuprate superconductors from the Nernst effect. Physical Review B, 2018, 97, .	3.2	9
12	Low magnetic field cooling of lepton plasmas via cyclotron-cavity resonance. Physics of Plasmas, 2018, 25, .	1.9	5
13	Enhanced Control and Reproducibility of Non-Neutral Plasmas. Physical Review Letters, 2018, 120, 025001.	7.8	18
14	Logarithmic Upturn in Low-Temperature Electronic Transport as a Signature of d-Wave Order in Cuprate Superconductors. Physical Review Letters, 2018, 121, 267004.	7.8	4
15	Unusual Interplay between Superconductivity and Field-Induced Charge Order in YBa ₂ Cu ₃ O _{6.67} . Physical Review B, 2018, 98, .	3.2	11
16	Sensitivity of YBa ₂ Cu ₃ O _{6.67} to pressure and magnetic field in the cuprate superconductor. Physical Review B, 2018, 98, .	3.2	32
17	Reply to "Comment on 'No evidence for orbital loop currents in charge-ordered YBa ₂ Cu ₃ O _{6.67} '". Physical Review B, 2018, 98, .	3.2	9
18	Influence of Spin-Orbit Coupling in Iron-Based Superconductors. Physical Review Letters, 2018, 121, 076401.	7.8	30

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19	Observation of the $1S \rightarrow 2P$ Lyman- α transition in antihydrogen. Nature, 2018, 561, 211-215.	27.8	51
20	Quasiparticle Scattering off Defects and Possible Bound States in Charge-Ordered YBa ₂ Cu ₃ O _y . Physical Review Letters, 2017, 118, 017001.	7.8	10
21	Anomalous thermal diffusivity in underdoped YBa ₂ Cu ₃ O _{6+x} . Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 5378-5383.	7.1	67
22	Observation of the $1S \rightarrow 2S$ transition in trapped antihydrogen. Nature, 2017, 541, 506-510.	27.8	122
23	Antihydrogen accumulation for fundamental symmetry tests. Nature Communications, 2017, 8, 681.	12.8	64
24	Observation of the hyperfine spectrum of antihydrogen. Nature, 2017, 548, 66-69.	27.8	101
25	No evidence for orbital loop currents in charge-ordered YBa ₂ Cu ₃ O _{6+x} from polarized neutron diffraction. Physical Review B, 2017, 96, .	3.2	23
26	Spin susceptibility of charge-ordered YBa ₂ Cu ₃ O _y across the upper critical field. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 13148-13153.	7.1	32
27	Limit on the electric charge of antihydrogen. Hyperfine Interactions, 2017, 238, 1.	0.5	0
28	Imaging the real space structure of the spin fluctuations in an iron-based superconductor. Nature Communications, 2017, 8, 15996.	12.8	22
29	A global inversion-symmetry-broken phase inside the pseudogap region of YBa ₂ Cu ₃ O _y . Nature Physics, 2017, 13, 250-254.	16.7	142
30	The rate of quasiparticle recombination probes the onset of coherence in cuprate superconductors. Scientific Reports, 2016, 6, 23610.	3.3	27
31	Ideal charge-density-wave order in the high-field state of superconducting YBCO. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 14645-14650.	7.1	83
32	Thermal Conductivity of the Iron-Based Superconductor FeSe: Nodeless Gap with a Strong Two-Band Character. Physical Review Letters, 2016, 117, 097003.	7.8	47
33	Wiedemann-Franz law in the underdoped cuprate superconductor YBa ₂ Cu ₃ O _{6+x} . Physical Review B, 2016, 93, .	3.2	29
34	^{63}Cu -NMR study of oxygen disorder in ortho-II YBa ₂ Cu ₃ O _{6+x} . Physical Review B, 2016, 93, .	3.2	11
35	Investigation of potential fluctuating intra-unit cell magnetic order in cuprates by ^{17}O NMR. Physical Review B, 2016, 94, .	3.2	11
36	Magnetic field controlled charge density wave coupling in underdoped YBa ₂ Cu ₃ O _{6+x} . Nature Communications, 2016, 7, 11494.	12.8	134

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37	Electron Plasmas Cooled by Cyclotron-Cavity Resonance. <i>Physical Review Letters</i> , 2016, 117, 175001.	7.8	5
38	Open microwave cavity for use in a Purcell enhancement cooling scheme. <i>Review of Scientific Instruments</i> , 2016, 87, 104702.	1.3	5
39	An improved limit on the charge of antihydrogen from stochastic acceleration. <i>Nature</i> , 2016, 529, 373-376.	27.8	48
40	Response to Comment on "Broken translational and rotational symmetry via charge stripe order in underdoped $\text{YBa}_2\text{Cu}_3\text{O}_{6+y}$ ". <i>Science</i> , 2016, 351, 235-235.	12.6	7
41	Orbital symmetry of charge-density-wave order in $\text{La}_{1.875}\text{Ba}_{0.125}\text{CuO}_4$ and $\text{YBa}_2\text{Cu}_3\text{O}_{6.67}$. <i>Nature Materials</i> , 2016, 15, 616-620.	27.5	45
42	Change of carrier density at the pseudogap critical point of a cuprate superconductor. <i>Nature</i> , 2016, 531, 210-214.	27.8	296
43	Thermodynamic signature of a magnetic-field-driven phase transition within the superconducting state of an underdoped cuprate. <i>Nature Physics</i> , 2016, 12, 47-51.	16.7	14
44	Separation of magnetic and superconducting behavior in $\text{YBa}_2\text{Cu}_3\text{O}_{6.33}$ ($T_c=8.4\text{K}$). <i>Physical Review B</i> , 2015, 91, .	3.2	4
45	Disorder-induced power-law response of a superconducting vortex on a plane. <i>Physical Review B</i> , 2015, 92, .	3.2	11
46	Magnetization of underdoped $\text{YBa}_2\text{Cu}_3\text{O}_y$ above the irreversibility field. <i>Physical Review B</i> , 2015, 92, .	3.2	10
47	Two types of nematicity in the phase diagram of the cuprate superconductor $\text{YBa}_2\text{Cu}_3\text{O}_{6+y}$. <i>Physical Review B</i> , 2015, 92, .	3.2	73
48	Note: A cryogenic, ultra-high-vacuum, microwave filter which passes a narrow beam. <i>Review of Scientific Instruments</i> , 2015, 86, 126101.	1.3	2
49	The microscopic structure of charge density waves in underdoped $\text{YBa}_2\text{Cu}_3\text{O}_{6.54}$ revealed by X-ray diffraction. <i>Nature Communications</i> , 2015, 6, 10064.	12.8	78
50	Antiproton cloud compression in the ALPHA apparatus at CERN. <i>Hyperfine Interactions</i> , 2015, 235, 21-28.	0.5	4
51	Symmetry of charge order in cuprates. <i>Nature Materials</i> , 2015, 14, 796-800.	27.5	195
52	Evidence for a small hole pocket in the Fermi surface of underdoped $\text{YBa}_2\text{Cu}_3\text{O}_y$. <i>Nature Communications</i> , 2015, 6, 6034.	12.8	60
53	Incipient charge order observed by NMR in the normal state of $\text{YBa}_2\text{Cu}_3\text{O}_y$. <i>Nature Communications</i> , 2015, 6, 6438.	12.8	211
54	Quasiparticle mass enhancement approaching optimal doping in a high- T_c superconductor. <i>Science</i> , 2015, 348, 317-320.	12.6	159

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55	Broken translational and rotational symmetry via charge stripe order in underdoped $\text{YBa}_2\text{Cu}_3\text{O}_{6+x}$. <i>Science</i> , 2015, 347, 1335-1339.	12.6	149
56	Three-dimensional charge density wave order in $\text{YBa}_2\text{Cu}_3\text{O}_{6.67}$ at high magnetic fields. <i>Science</i> , 2015, 350, 949-952.	12.6	280
57	Direct measurement of the upper critical field in cuprate superconductors. <i>Nature Communications</i> , 2014, 5, 3280.	12.8	171
58	Sign inversion in the superconducting order parameter of LiFeAs inferred from Bogoliubov quasiparticle interference. <i>Physical Review B</i> , 2014, 89, .	3.2	40
59	Atomic scale real-space mapping of holes in $\text{YBa}_2\text{Cu}_3\text{O}_{6+\delta}$. <i>Nature Communications</i> , 2014, 5, 4275.	12.8	42
60	Impact of Quenched Oxygen Disorder on Charge Density Wave Order in $\text{YBa}_2\text{Cu}_3\text{O}_{6+x}$. <i>Physical Review Letters</i> , 2014, 113, 107002.	3.2	185
61	Normal-state nodal electronic structure in underdoped high- T_c copper oxides. <i>Nature</i> , 2014, 511, 61-64.	27.8	85
62	An experimental limit on the charge of antihydrogen. <i>Nature Communications</i> , 2014, 5, 3955.	12.8	40
63	Controlling the near-surface superfluid density in underdoped $\text{YBa}_2\text{Cu}_3\text{O}_{6+x}$ by photo-illumination. <i>Scientific Reports</i> , 2014, 4, 6250.	3.3	11
64	X-Ray Diffraction Observations of a Charge-Density-Wave Order in Superconducting Ortho-II $\text{YBa}_2\text{Cu}_3\text{O}_{6+x}$. <i>Physical Review Letters</i> , 2013, 111, 107002.	3.2	6
65	Microwave spectroscopy of vortex dynamics in ortho-II $\text{YBa}_2\text{Cu}_3\text{O}_{6+x}$ single crystals. <i>Physical Review B</i> , 2013, 88, .	16.7	205
66	Thermodynamic phase diagram of static charge order in underdoped $\text{YBa}_2\text{Cu}_3\text{O}_y$. <i>Nature Physics</i> , 2013, 9, 79-83.	3.2	83
67	Dispersive spin excitations in highly overdoped cuprates revealed by resonant inelastic x-ray scattering. <i>Physical Review B</i> , 2013, 88, .	3.2	25
68	Lattice dynamical signature of charge density wave formation in underdoped $\text{YBa}_2\text{Cu}_3\text{O}_{6+x}$. <i>Physical Review B</i> , 2013, 88, .	3.2	57
69	Inelastic x-ray study of phonon broadening and charge-density wave formation in ortho-II-ordered $\text{YBa}_2\text{Cu}_3\text{O}_{6.54}$. <i>Physical Review B</i> , 2013, 88, .	3.2	18
70	Microwave conductivity and superfluid density in strongly overdoped $\text{TiBa}_2\text{Cu}_3\text{O}_{6+x}$. <i>Physical Review B</i> , 2013, 88, .	1.9	19
71	Experimental and computational study of the injection of antiprotons into a positron plasma for antihydrogen production. <i>Physics of Plasmas</i> , 2013, 20, .		
72			

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73	Coherent c -axis transport in the underdoped cuprate superconductor $\text{YBa}_2\text{Cu}_3\text{O}_y$. Physical Review B, 2012, 85, .	3.2	62
74	Bound states of defects in superconducting LiFeAs studied by scanning tunneling spectroscopy. Physical Review B, 2012, 86.	3.2	50
75	Absolute value and temperature dependence of the magnetic penetration depth in $\text{Ba}(\text{Co}_{1-x}\text{Fe}_x)_2\text{As}_2$. Physical Review B, 2012, 86.	3.2	21
76	The ALPHA α detector: Module Production and Assembly. Journal of Instrumentation, 2012, 7, C01051-C01051.	1.2	5
77	Antihydrogen formation by autoresonant excitation of antiproton plasmas. Hyperfine Interactions, 2012, 212, 61-67.	0.5	0
78	Trapped antihydrogen. Hyperfine Interactions, 2012, 212, 15-29.	0.5	12
79	Microwave-plasma interactions studied via mode diagnostics in ALPHA. Hyperfine Interactions, 2012, 212, 117-123.	0.5	0
80	Alternative method for reconstruction of antihydrogen annihilation vertices. Hyperfine Interactions, 2012, 212, 101-107.	0.5	1
81	Direct observation of competition between superconductivity and charge density wave order in $\text{YBa}_2\text{Cu}_3\text{O}_{6.67}$. Nature Physics, 2012, 8, 871-876.	16.7	924
82	Distinct Charge Orders in the Planes and Chains of Ortho-II Ordered $\text{YBa}_2\text{Cu}_3\text{O}_y$. Physical Review Letters, 2012, 109, 167001.	3.2	46
83	Superconductors Identified by Resonant Elastic X-ray Scattering. Physical Review Letters, 2012, 109, 167001.	7.8	254
84	Antiparticle sources for antihydrogen production and trapping. Journal of Physics: Conference Series, 2011, 262, 012001.	0.4	1
85	Resonant elastic soft x-ray scattering in oxygen-ordered $\text{YBa}_2\text{Cu}_3\text{O}_y$. Nature, 2011, 477, 191-194.	3.2	45
86	Magnetic-field-induced charge-stripe order in the high-temperature superconductor $\text{YBa}_2\text{Cu}_3\text{O}_y$. Nature, 2011, 477, 191-194.	27.8	660
87	Angle dependence of quantum oscillations in $\text{YBa}_2\text{Cu}_3\text{O}_{6.59}$ shows free-spin behaviour of α quasiparticles. Nature Physics, 2011, 7, 234-238.	16.7	69
88	Heat capacity through the magnetic-field-induced resistive transition in an underdoped high-temperature superconductor. Nature Physics, 2011, 7, 332-335.	16.7	116
89	Towards antihydrogen trapping and spectroscopy at ALPHA. Hyperfine Interactions, 2011, 199, 39-48.	0.5	0

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91	<p>Direct measurement of the London penetration depth in an underdoped high-T_c superconductor YBa₂Cu₃O_{7-x}. Physical Review B, 2011, 83, .</p> <p>Two-dimensional vortex behavior in highly underdoped YBa₂Cu₃O_{7-x}. Physical Review B, 2011, 83, .</p>	3.2	189
92	Pair breaking versus symmetry breaking: Origin of the Raman modes in superconducting cuprates. Physical Review B, 2011, 84, .	3.2	20
93	<p>Stability of nodal quasiparticles in underdoped YBa₂Cu₃O_{6.5}. Physical Review B, 2009, 80, .</p> <p>Stability of nodal quasiparticles in underdoped YBa₂Cu₃O_{6.5} by penetration depth and microwave spectroscopy. Physical Review B, 2009, 80, .</p>	3.2	30
94	Loss of nodal quasiparticle integrity in underdoped YBa ₂ Cu ₃ O _{6+x} . Nature Physics, 2010, 6, 905-911.	16.7	103
95	Compensated electron and hole pockets in an underdoped high- T_c superconductor YBa ₂ Cu ₃ O _{6.5} . Physical Review B, 2010, 81, .	3.2	55
96	Fermi-liquid behavior in an underdoped high- T_c superconductor YBa ₂ Cu ₃ O _{6.5} . Physical Review B, 2010, 81, .	3.2	37
97	Direct measurement of the London penetration depth in an underdoped high- T_c superconductor YBa ₂ Cu ₃ O _{6.5} . Physical Review B, 2010, 81, .	3.2	37
98	Oxygen chain disorder as the weak scattering source in YBa ₂ Cu ₃ O _{6.5} . Physical Review B, 2010, 82, .	3.2	9
99	Stability of nodal quasiparticles in underdoped YBa ₂ Cu ₃ O _{6.5} by penetration depth and microwave spectroscopy. Physical Review B, 2009, 80, .	3.2	5
100	Magnetic multipole induced zero-rotation frequency bounce-resonant loss in a Penning trap used for antihydrogen trapping. Physics of Plasmas, 2009, 16, 100702.	1.9	5
101	In situ doping control of the surface of high-temperature superconductors. Nature Physics, 2008, 4, 527-531.	16.7	175
102	Particle Physics Aspects of Antihydrogen Studies with ALPHA at CERN. AIP Conference Proceedings, 2008, .	0.4	11
103	First Attempts at Antihydrogen Trapping in ALPHA. AIP Conference Proceedings, 2008, .	0.4	4
104	Antiproton compression and radial measurements. AIP Conference Proceedings, 2008, .	0.4	1
105	Two-dimensional vortex behavior in highly underdoped YBa ₂ Cu ₃ O _{7-x} . Physical Review B, 2011, 83, .	3.2	44
106	A novel antiproton radial diagnostic based on octupole induced ballistic loss. Physics of Plasmas, 2008, 15, 032107.	1.9	8
107	Phenomenology of a _{1g} -axis and b _{1g} -axis charge dynamics from microwave spectroscopy of highly ordered YBa ₂ Cu ₃ O _{6.5} and YBa ₂ Cu ₃ O _{6.993} . Physical Review B, 2006, 74, .	3.2	32
108	NMR evidence for Friedel-like oscillations in the CuO chains of ortho-II YBa ₂ Cu ₃ O _{6.5} . Physical Review B, 2006, 73, .	3.2	16

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109	a-axis optical conductivity of detwinned ortho-IIYBa ₂ Cu ₃ O _{6.50} . Physical Review B, 2006, 73, .	3.2	69
110	Comment on "Nodeless pairing state in single-crystal YBa ₂ Cu ₃ O ₇ ". Physical Review B, 2005, 72, .	3.2	7
111	Bolometric technique for high-resolution broadband microwave spectroscopy of ultra-low-loss samples. Review of Scientific Instruments, 2004, 75, 124-135.	1.3	30
112	Energy Scales in the High-T _c Superconductor YBa ₂ Cu ₃ O _{6+x} . Journal of Superconductivity and Novel Magnetism, 2004, 17, 93-96.	0.5	0
113	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
114	Correlations between charge ordering and local magnetic fields in overdoped YBa ₂ Cu ₃ O _{6+x} . Physical Review B, 2002, 66, .	3.2	40
115	Top-Seeded Melt-Growth of YBa ₂ Cu ₃ O _x Crystals for Neutron Diffraction Studies. Journal of Superconductivity and Novel Magnetism, 2002, 15, 531-534.	0.5	6
116	Phonon Screening in High-Temperature Superconductors. Physical Review Letters, 2000, 84, 5391-5394.	7.8	31
117	Field Induced Reduction of the Low-Temperature Superfluid Density in YBa ₂ Cu ₃ O _{6.95} . Physical Review Letters, 1999, 83, 4156-4159.	7.8	101
118	A new radiative heater for high T _c thin film growth. Review of Scientific Instruments, 1998, 69, 3326-3330.	1.3	3
119	Surface impedance studies of YBCO. European Physical Journal D, 1996, 46, 3195-3202.	0.4	91