R D Mcdonald

List of Publications by Year
in descending order

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92 papers	4,077 citations	94433 37 h-index	118850 62 g-index
92 all docs	92 docs citations	92 times ranked	4661 citing authors

#	Article	IF	Citations
1	Evidence for a delocalization quantum phase transition without symmetry breaking in CeCoIn ₅. Science, 2022, 375, 76-81.	12.6	21
2	Superconductivity and quantum criticality linked by the Hall effect in a strange metal. Nature Physics, 2021, 17, 58-62.	16.7	13
3	Scale-invariant magnetic anisotropy in RuCl3 at high magnetic fields. Nature Physics, 2021, 17, 240-244.	16.7	25
4	Observation of cyclotron resonance and measurement of the hole mass in optimally doped <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mrow><mml:mi>La</mml:mi></mml:mrow><mml:mn>2</mml:mn></mml:msub><mml:mrow><mml:mi>Cu</mml:mi><mml:msub><mml:mi>O</mml:mi><mml:mn>4</mml:mn></mml:msub></mml:mrow></mml:math> Physical Review B, 2021, 103, .	3.2	11
5	Defect-driven ferrimagnetism and hidden magnetization in <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mrow><mml:mi>MnBi</mml:mi></mml:mrow><mml:mn>2</mml:mn></mml:msub></mml:math> Physical Review B, 2021, 103, .	3.2	41
6	Spin-valley locking and bulk quantum Hall effect in a noncentrosymmetric Dirac semimetal BaMnSb2. Nature Communications, 2021, 12, 4062.	12.8	32
7	Dirac fermions and flat bands in the ideal kagome metal FeSn. Nature Materials, 2020, 19, 163-169.	27.5	367
8	Magnetic breakdown and charge density wave formation: A quantum oscillation study of the rare-earth tritellurides. Physical Review B, 2020, 102, .	3.2	8
9	Exchange biased anomalous Hall effect driven by frustration in a magnetic kagome lattice. Nature Communications, 2020, 11, 560.	12.8	54
10	Hard antinodal gap revealed by quantum oscillations in the pseudogap regime of underdoped high-Tc superconductors. Nature Physics, 2020, 16, 841-847.	16.7	7
11	GaN/AlGaN 2DEGs in the quantum regime: Magneto-transport and photoluminescence to 60 tesla. Applied Physics Letters, 2020, 117, 262105.	3.3	1
12	de Haas-van Alphen effect of correlated Dirac states in kagome metal Fe3Sn2. Nature Communications, 2019, 10, 4870.	12.8	48
13	Spatial control of heavy-fermion superconductivity in CeIrIn ₅. Science, 2019, 366, 221-226.	12.6	37
14	Quantum oscillations from the reconstructed Fermi surface in electron-doped cuprate superconductors. New Journal of Physics, 2018, 20, 043019.	2.9	14
15	Resonant torsion magnetometry in anisotropic quantum materials. Nature Communications, 2018, 9, 3975.	12.8	30
16	Scale-invariant magnetoresistance in a cuprate superconductor. Science, 2018, 361, 479-481.	12.6	100
17	Quantum limit transport and destruction of the Weyl nodes in TaAs. Nature Communications, 2018, 9, 2217.	12.8	71
18	Emergent magnetic anisotropy in the cubic heavy-fermion metal CeIn3. Npj Quantum Materials, 2017, 2, .	5.2	14

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19	Magnetic field tuning of an excitonic insulator between the weak and strong coupling regimes in quantum limit graphite. Scientific Reports, 2017, 7, 1733.	3.3	20
20	Electronic in-plane symmetry breaking at field-tuned quantum criticality in CeRhIn5. Nature, 2017, 548, 313-317.	27.8	89
21	Thermodynamic constraints on the amplitude of quantum oscillations. Physical Review B, 2017, 95, .	3.2	4
22	Single reconstructed Fermi surface pocket in an underdoped single-layer cuprate superconductor. Nature Communications, 2016, 7, 12244.	12.8	46
23	Anomalous electronic structure and magnetoresistance in TaAs2. Scientific Reports, 2016, 6, 27294.	3.3	74
24	Scaling between magnetic field and temperature in the high-temperature superconductor BaFe2(As1âˆ’xPx)2. Nature Physics, 2016, 12, 916-919.	16.7	92
25	Bimetallic MOFs (H₃O)_x[Cu(MF₆)(pyrazine)₂]Â·(4 âˆ’) Tj ETQq1 1 0.784314 rgBT /(disordered quantum spins in the V⁴⁺ system. Chemical Communications, 2016, 52, 12653-12656.	4.1	6
26	Shubnikov-de Haas quantum oscillations reveal a reconstructed Fermi surface near optimal doping in a thin film of the cuprate superconductorPr1.86Ce0.14CuO4Â±Î´. Physical Review B, 2016, 94, .	3.2	16
27	Control of the third dimension in copper-based square-lattice antiferromagnets. Physical Review B, 2016, 93, .	3.2	18
28	Anisotropy reversal of the upper critical field at low temperatures and spin-locked superconductivity in<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:msub><mml:mtext>K</mml:mtext><mml:mn>2</mml:mn></ Physical Review B, 2015, 91, .	3.2	55
29	Electron-hole compensation effect between topologically trivial electrons and nontrivial holes in NbAs. Physical Review B, 2015, 92, .	3.2	66
30	Avoided valence transition in a plutonium superconductor. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 3285-3289.	7.1	39
31	Quasiparticle mass enhancement approaching optimal doping in a high- T _c superconductor. Science, 2015, 348, 317-320.	12.6	159
32	Realization of a three-dimensional spinâ€“anisotropic harmonic honeycomb iridate. Nature Communications, 2014, 5, 4203.	12.8	230
33	Local magnetism and spin correlations in the geometrically frustrated cluster magnet<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mtext>LiZn</mml:mtext><mml:mn>2</mml:mn></mml:ms Physical Review B, 2014, 89, .	3.2	46
34	Transport near a quantum critical point in BaFe2(As1âˆ’xPx)2. Nature Physics, 2014, 10, 194-197.	16.7	100
35	Double exchange in a mixed-valent octanuclear iron cluster, [Fe₈(Î¼₄-O)₄(Î¼-4-Cl-pz)₁₂Cl₄]^{âˆ’}. Dalton Transactions, 2014, 43, 11269-11276.	3.3	11
36	Cascade of field-induced magnetic transitions in a frustrated antiferromagnetic metal. Physical Review B, 2014, 90, .	3.2	19

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37	Critical field of isoelectron substituted SrFe<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mrow		

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55	Magneto-optical properties and charge-spin coupling in the molecular(2,3-dmpyH)2CuBr4spin-ladder material. Physical Review B, 2010, 81, .	3.2	17
56	Enhanced Fermi-Surface Nesting in Superconducting<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mi>BaFe</mml:mi><mml:mn>2</mml:mn></mml:msub><mml:mo stretchy="false">(</mml:mo><mml:msub><mml:mi>As</mml:mi><mml:mrow><mml:mn>1</mml:mn><mml:mo>â’	7.8	66
57	Physica Interlayer magnetotransport in the overdoped cuprateTl2Ba2CuO6+x: Quantum critical point and its downslide in an applied magnetic field. Physical Review B, 2010, 82, .	3.2	3
58	Quantum oscillations in the parent pnictide<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow><mml:mtext>BaFe</mml:mtext></mml:mrow><mml:mn>2</mml:mn></mml:msub><mml:mo	3.2	93
59	Itinerant electrons in the reconstructed state. Physical Review B, 2009, 80, . Field-induced Bose-Einstein Condensation of Triplons up to 8AK in<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mi>Sr</mml:mi><mml:mn>3</mml:mn></mml:msub><mml:msub><mml:mi>Cr</mml:mi><mml:mn>2</mml:mn></mml:msub><mml:msub><mml:mi mathvariant="bold">O</mml:mi><mml:mn>8</mml:mn></mml:msub></mml:math>. Physical Review	7.8	78
60	Nonmonotonic field dependence of the NÃ©el temperature in the quasi-two-dimensional magnet<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mo>[</mml:mo><mml:mrow><mml:mtext>Cu</mml:mtext></mml:mrow><mml:mo>(	3.2	52
61	Physical Review B, 2009, 79, . Ratio: A de Haasâ€“van Alphen Study of<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>c</mml:mi><mml:mo>/</mml:mo><mml:mi>a</mml:mi></mml:math>	7.8	59
62	Asymmetric Quintuplet Condensation in the Frustrated<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>S</mml:mi><mml:mo>=</mml:mo><mml:mn>1</mml:mn></mml:math>Spin Dimer Compound<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mi>Ba</mml:mi><mml:mn>3</mml:mn></mml:msub><mml:msub><mml:mi>Mn</mml:mi><mml:mi mathvariant="bold">O</mml:mi><mml:mn>8</mml:mn></mml:msub></mml:math>. Physical Review	7.8	37
63	Lette Determining the in-plane Fermi surface topology in highTcsuperconductors using angle-dependent magnetic quantum oscillations. Journal of Physics Condensed Matter, 2009, 21, 192201.	1.8	4
64	Complex conductivity of UTX compounds in high magnetic fields. Journal of Applied Physics, 2009, 105, 07E108.	2.5	3
65	Quantum oscillations in antiferromagnetic CaFe₂As₂on the brink of superconductivity. Journal of Physics Condensed Matter, 2009, 21, 322202.	1.8	16
66	Recent high-magnetic-field experiments on the â€œHigh â€•cuprates; Fermi-surface instabilities as a driver for superconductivity. Physica B: Condensed Matter, 2009, 404, 350-353.	2.7	3
67	Strong HÂ·Â·Â·F Hydrogen Bonds as Synthons in Polymeric Quantum Magnets: Structural, Magnetic, and Theoretical Characterization of [Cu(HF2)(pyrazine)2]SbF6, [Cu2F(HF)(HF2)(pyrazine)4](SbF6)2, and [CuAg(H3F4)(pyrazine)5](SbF6)2. Journal of the American Chemical Society, 2009, 131, 6733-6747.	13.7	76
68	Characterization of the Antiferromagnetism in Ag(pyz)₂(S₂O₈) (pyz = Pyrazine) with a Two-Dimensional Square Lattice of Ag²⁺ Ions. Journal of the American Chemical Society, 2009, 131, 4590-4591.	13.7	27
69	Fermi Surface of<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mi>SrFe</mml:mi><mml:mn>2</mml:mn></mml:msub><mml:msub><mml:mi mathvariant="bold">P</mml:mi><mml:mn>2</mml:mn></mml:msub></mml:math>Determined by the deÂHaasâ€“vanÂAlphen Effect. Physical Review Letters, 2009, 103, 076401.	7.8	70
70	Doping dependent nonlinear Hall effect in SmFeAsO_{1â’x}F_x. Journal of Physics Condensed Matter, 2009, 21, 412201.	1.8	6
71	Exact mapping of the dx2â’y2Cooper-pair wavefunction onto the spin fluctuations in cuprates: the Fermi surface as a driver for â€˜highTcâ€™ superconductivity. Journal of Physics Condensed Matter, 2009, 21, 012201.	1.8	4
72	Thermoelectric studies of the non-thermal equilibrium dynamics in chiral metals. Physica B: Condensed Matter, 2008, 403, 1652-1654.	2.7	0

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73	Sliding charge-density wave in manganites. Nature Materials, 2008, 7, 25-30.	27.5	119
74	Isotope effect in quasi-two-dimensional metal-organic antiferromagnets. Physical Review B, 2008, 78, .	3.2	21
75	Fermi Surface of Superconducting LaFePO Determined from Quantum Oscillations. Physical Review Letters, 2008, 101, 216402.	7.8	182
76	Experimental and Theoretical Characterization of the Magnetic Properties of CuF₂(H₂O)₂(pyz) (pyz = pyrazine): A Two-Dimensional Quantum Magnet Arising from Supersuperexchange Interactions through Hydrogen Bonded Paths. Chemistry of Materials, 2008, 20, 7408-7416.	6.7	59
77	Experimentally determining the exchange parameters of quasi-two-dimensional Heisenberg magnets. New Journal of Physics, 2008, 10, 083025.	2.9	106
78	Unusual Magneto-Optical Phenomenon Reveals Low Energy Spin Dispersion in the Spin-1 Anisotropic Heisenberg Antiferromagnetic Chain SystemNiCl2â"4SC(NH2)2. Physical Review Letters, 2008, 101, 087602.	7.8	14
79	Comment on â€œPinning Frequencies of the Collective Modes inÎ±-Uraniumâ€. Physical Review Letters, 2007, 98, 249701; discussion 249702.	7.8	5
80	Cuprate Fermi Orbits and Fermi Arcs: The Effect of Short-Range Antiferromagnetic Order. Physical Review Letters, 2007, 99, 206406.	7.8	61
81	Angle-dependent magnetoresistance oscillations due to magnetic breakdown orbits. Physical Review B, 2007, 76, .	3.2	18
82	Persistence to High Temperatures of Interlayer Coherence in an Organic Superconductor. Physical Review Letters, 2007, 99, 027004.	7.8	22
83	Role of anisotropy in the spin-dimer compoundBaCuSi2O6. Physical Review B, 2006, 74, .	3.2	34
84	High-field studies of the slow thermal death of interlayer coherence in quasi-two-dimensional metals. Journal of Physics: Conference Series, 2006, 51, 319-322.	0.4	0
85	High magnetic field studies of the shape memory alloy AuZn. Journal of Physics and Chemistry of Solids, 2006, 67, 2100-2105.	4.0	4
86	Uncommonly high upper critical field of the pyrochlore superconductorKOs2O6below the enhanced paramagnetic limit. Physical Review B, 2006, 74, .	3.2	31
87	A photonic band-gap resonator to facilitate GHz-frequency conductivity experiments in pulsed magnetic fields. Review of Scientific Instruments, 2006, 77, 084702.	1.3	4
88	Fermi surface as a driver for the shape-memory effect in AuZn. Journal of Physics Condensed Matter, 2005, 17, L69-L75.	1.8	15
89	Catastrophic Fermi Surface Reconstruction in the Shape-Memory Alloy AuZn. Physical Review Letters, 2005, 94, 116401.	7.8	22
90	Landau Quantization Effects in the Charge-Density-Wave System(Per)2M(mnt)2(whereM=Auand Pt). Physical Review Letters, 2005, 94, 106404.	7.8	12

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91	Charge-Density Waves Survive the Pauli Paramagnetic Limit. Physical Review Letters, 2004, 93, 076405.	7.8	27
92	Angle-dependent magnetoresistance of the layered organic superconductorÎºâ˜'(ET)2Cu(NCS)2:Simulation and experiment. Physical Review B, 2004, 69, .	3.2	58