

R D Mcdonald

List of Publications by Year in descending order

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92
papers

4,077
citations

94269

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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.	6.0	21
2	Superconductivity and quantum criticality linked by the Hall effect in a strange metal. Nature Physics, 2021, 17, 58-62.	6.5	13
3	Scale-invariant magnetic anisotropy in RuCl ₃ at high magnetic fields. Nature Physics, 2021, 17, 240-244.	6.5	25
4	Observation of cyclotron resonance and measurement of the hole mass in optimally doped La _{1-x} F _x Co ₅ . Physical Review B, 2021, 103, .	6.1	11
5	Defect-driven ferrimagnetism and hidden magnetization in MnBi. Physical Review B, 2021, 103, .	6.1	11
6	Spin-valley locking and bulk quantum Hall effect in a noncentrosymmetric Dirac semimetal BaMnSb ₂ . Nature Communications, 2021, 12, 4062.	5.8	32
7	Dirac fermions and flat bands in the ideal kagome metal FeSn. Nature Materials, 2020, 19, 163-169.	13.3	367
8	Magnetic breakdown and charge density wave formation: A quantum oscillation study of the rare-earth tritellurides. Physical Review B, 2020, 102, .	1.1	8
9	Exchange biased anomalous Hall effect driven by frustration in a magnetic kagome lattice. Nature Communications, 2020, 11, 560.	5.8	54
10	Hard antinodal gap revealed by quantum oscillations in the pseudogap regime of underdoped high-T _c superconductors. Nature Physics, 2020, 16, 841-847.	6.5	7
11	GaN/AlGa _n 2DEGs in the quantum regime: Magneto-transport and photoluminescence to 60 tesla. Applied Physics Letters, 2020, 117, 262105.	1.5	1
12	de Haas-van Alphen effect of correlated Dirac states in kagome metal Fe ₃ Sn ₂ . Nature Communications, 2019, 10, 4870.	5.8	48
13	Spatial control of heavy-fermion superconductivity in CeIrIn ₅ . Science, 2019, 366, 221-226.	6.0	37
14	Quantum oscillations from the reconstructed Fermi surface in electron-doped cuprate superconductors. New Journal of Physics, 2018, 20, 043019.	1.2	14
15	Resonant torsion magnetometry in anisotropic quantum materials. Nature Communications, 2018, 9, 3975.	5.8	30
16	Scale-invariant magnetoresistance in a cuprate superconductor. Science, 2018, 361, 479-481.	6.0	100
17	Quantum limit transport and destruction of the Weyl nodes in TaAs. Nature Communications, 2018, 9, 2217.	5.8	71
18	Emergent magnetic anisotropy in the cubic heavy-fermion metal CeIn ₃ . Npj Quantum Materials, 2017, 2, .	1.8	14

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19	Magnetic field tuning of an excitonic insulator between the weak and strong coupling regimes in quantum limit graphite. <i>Scientific Reports</i> , 2017, 7, 1733.	1.6	20
20	Electronic in-plane symmetry breaking at field-tuned quantum criticality in CeRhIn5. <i>Nature</i> , 2017, 548, 313-317.	13.7	89
21	Thermodynamic constraints on the amplitude of quantum oscillations. <i>Physical Review B</i> , 2017, 95, .	1.1	4
22	Single reconstructed Fermi surface pocket in an underdoped single-layer cuprate superconductor. <i>Nature Communications</i> , 2016, 7, 12244.	5.8	46
23	Anomalous electronic structure and magnetoresistance in TaAs2. <i>Scientific Reports</i> , 2016, 6, 27294.	1.6	74
24	Scaling between magnetic field and temperature in the high-temperature superconductor BaFe2(As1-xPx)2. <i>Nature Physics</i> , 2016, 12, 916-919.	6.5	92
25	Bimetallic MOFs (H ₃ O) _x [Cu(MF ₆)(pyrazine) ₂] ₄ ·(4 n̄) Tj ETQq1 1 0.784314 rgBT (C) disordered quantum spins in the V ⁴⁺ system. <i>Chemical Communications</i> , 2016, 52, 12653-12656.	2.2	6
26	Shubnikov-de Haas quantum oscillations reveal a reconstructed Fermi surface near optimal doping in a thin film of the cuprate superconductor Pr1.86Ce0.14CuO4±f. <i>Physical Review B</i> , 2016, 94, .	1.1	16
27	Control of the third dimension in copper-based square-lattice antiferromagnets. <i>Physical Review B</i> , 2016, 93, .	1.1	18
28	Anisotropy reversal of the upper critical field at low temperatures and spin-locked superconductivity in $KxFe_2As_2$. <i>Physical Review B</i> , 2015, 91, .	1.1	55
29	Electron-hole compensation effect between topologically trivial electrons and nontrivial holes in NbAs. <i>Physical Review B</i> , 2015, 92, .	1.1	66
30	Avoided valence transition in a plutonium superconductor. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2015, 112, 3285-3289.	3.3	39
31	Quasiparticle mass enhancement approaching optimal doping in a high- <i>T_c</i> superconductor. <i>Science</i> , 2015, 348, 317-320.	6.0	159
32	Realization of a three-dimensional spin-anisotropic harmonic honeycomb iridate. <i>Nature Communications</i> , 2014, 5, 4203.	5.8	230
33	Local magnetism and spin correlations in the geometrically frustrated cluster magnet $LiZn_2Cl_4$. <i>Physical Review B</i> , 2014, 89, .	1.6	11
34	Transport near a quantum critical point in BaFe2(As1-xPx)2. <i>Nature Physics</i> , 2014, 10, 194-197.	6.5	100
35	Double exchange in a mixed-valent octanuclear iron cluster, [Fe ₈ (¹ / ₄ -O) ₄ (¹ / ₄ -4-Cl-pz) ₁₂ Cl ₄] ¹⁶⁺ . <i>Dalton Transactions</i> , 2014, 43, 11269-11276.	1.6	11
36	Cascade of field-induced magnetic transitions in a frustrated antiferromagnetic metal. <i>Physical Review B</i> , 2014, 90, .	1.1	19

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37	critical field of isoelectron substituted SrFe $\langle\text{mml:math}\text{ xmlns:mml= "http://www.w3.org/1998/Math/MathML" display= "inline" }\rangle\langle\text{mml:msub}\rangle\langle\text{mml:mrow}\rangle$		



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55	Magneto-optical properties and charge-spin coupling in the molecular(2,3-dmpyH)2CuBr4 spin-ladder material. Physical Review B, 2010, 81. Enhanced Fermi-Surface Nesting in Superconducting BaFe_2As_2 . Physical Review Letters, 2009, 103, 076401.	1.1	17
56	Field-induced Bose-Einstein Condensation of Triplons up to 8 K in Cu_2O_8 . Physical Review Letters, 2009, 103, 077202.	2.9	66
57	Interlayer magnetotransport in the overdoped cuprate $\text{Ti}_2\text{Ba}_2\text{CuO}_{6+x}$: Quantum critical point and its downslide in an applied magnetic field. Physical Review B, 2010, 82, .	1.1	3
58	Quantum oscillations in the parent pnictide BaFe_2As_2 . Physical Review Letters, 2009, 103, 077202. Itinerant electrons in the reconstructed state. Physical Review B, 2009, 80.	1.1	93
59	Asymmetric Quintuplet Condensation in the Frustrated Cu_2O_8 . Physical Review Letters, 2009, 103, 077202.	2.9	78
60	Nonmonotonic field dependence of the Néel temperature in the quasi-two-dimensional magnet Cu_2O_8 . Physical Review B, 2009, 79.	1.1	52
61	Haas-van Alphen Study of Cu_2O_8 . Physical Review Letters, 2009, 103, 077202.	2.9	59
62	Asymmetric Quintuplet Condensation in the Frustrated Cu_2O_8 . Physical Review Letters, 2009, 103, 077202.	2.9	37
63	Determining the in-plane Fermi surface topology in high T_c superconductors using angle-dependent magnetic quantum oscillations. Journal of Physics Condensed Matter, 2009, 21, 192201.	0.7	4
64	Complex conductivity of UTX compounds in high magnetic fields. Journal of Applied Physics, 2009, 105, 07E108.	1.1	3
65	Quantum oscillations in antiferromagnetic CaFe_2As_2 on the brink of superconductivity. Journal of Physics Condensed Matter, 2009, 21, 322202.	0.7	16
66	Recent high-magnetic-field experiments on the Cu cuprates; Fermi-surface instabilities as a driver for superconductivity. Physica B: Condensed Matter, 2009, 404, 350-353.	1.3	3
67	Strong H \cdot F Hydrogen Bonds as Synthons in Polymeric Quantum Magnets: Structural, Magnetic, and Theoretical Characterization of $[\text{Cu}(\text{HF}_2)(\text{pyrazine})_2]\text{SbF}_6$, $[\text{Cu}_2\text{F}(\text{HF})(\text{HF}_2)(\text{pyrazine})_4](\text{SbF}_6)_2$, and $[\text{CuAg}(\text{H}_3\text{F}_4)(\text{pyrazine})_5](\text{SbF}_6)_2$. Journal of the American Chemical Society, 2009, 131, 6733-6747.	6.6	76
68	Characterization of the Antiferromagnetism in $\text{Ag}(\text{pyz})_2(\text{S}_2\text{O}_8)$ (pyz = Pyrazine) with a Two-Dimensional Square Lattice of Ag^{2+} Ions. Journal of the American Chemical Society, 2009, 131, 4590-4591.	6.6	27
69	Fermi Surface of SrFe_2P_2 Determined by the de Haas-van Alphen Effect. Physical Review Letters, 2009, 103, 076401.	2.9	70
70	Doping dependent nonlinear Hall effect in $\text{SmFeAsO}_{1-x}\text{F}_x$. Journal of Physics Condensed Matter, 2009, 21, 412201.	0.7	6
71	Exact mapping of the $d_{x^2-y^2}$ Cooper-pair wavefunction onto the spin fluctuations in cuprates: the Fermi surface as a driver for Hc^{TM} superconductivity. Journal of Physics Condensed Matter, 2009, 21, 012201.	0.7	4
72	Thermoelectric studies of the non-thermal equilibrium dynamics in chiral metals. Physica B: Condensed Matter, 2008, 403, 1652-1654.	1.3	0

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73	Sliding charge-density wave in manganites. <i>Nature Materials</i> , 2008, 7, 25-30.	13.3	119
74	Isotope effect in quasi-two-dimensional metal-organic antiferromagnets. <i>Physical Review B</i> , 2008, 78, .	1.1	21
75	Fermi Surface of Superconducting LaFePO Determined from Quantum Oscillations. <i>Physical Review Letters</i> , 2008, 101, 216402.	2.9	182
76	Experimental and Theoretical Characterization of the Magnetic Properties of $\text{CuF}_2(\text{H}_2\text{O})_2(\text{pyz})$ (pyz = pyrazine): A Two-Dimensional Quantum Magnet Arising from Supersuperexchange Interactions through Hydrogen Bonded Paths. <i>Chemistry of Materials</i> , 2008, 20, 7408-7416.	3.2	59
77	Experimentally determining the exchange parameters of quasi-two-dimensional Heisenberg magnets. <i>New Journal of Physics</i> , 2008, 10, 083025.	1.2	106
78	Unusual Magneto-Optical Phenomenon Reveals Low Energy Spin Dispersion in the Spin-1 Anisotropic Heisenberg Antiferromagnetic Chain System $\text{NiCl}_2 \cdot 4\text{SC}(\text{NH}_2)_2$. <i>Physical Review Letters</i> , 2008, 101, 087602.	2.9	14
79	Comment on "Pinning Frequencies of the Collective Modes in Uranium ". <i>Physical Review Letters</i> , 2007, 98, 249701; discussion 249702.	2.9	5
80	Cuprate Fermi Orbits and Fermi Arcs: The Effect of Short-Range Antiferromagnetic Order. <i>Physical Review Letters</i> , 2007, 99, 206406.	2.9	61
81	Angle-dependent magnetoresistance oscillations due to magnetic breakdown orbits. <i>Physical Review B</i> , 2007, 76, .	1.1	18
82	Persistence to High Temperatures of Interlayer Coherence in an Organic Superconductor. <i>Physical Review Letters</i> , 2007, 99, 027004.	2.9	22
83	Role of anisotropy in the spin-dimer compound $\text{BaCuSi}_2\text{O}_6$. <i>Physical Review B</i> , 2006, 74, .	1.1	34
84	High-field studies of the slow thermal death of interlayer coherence in quasi-two-dimensional metals. <i>Journal of Physics: Conference Series</i> , 2006, 51, 319-322.	0.3	0
85	High magnetic field studies of the shape memory alloy AuZn. <i>Journal of Physics and Chemistry of Solids</i> , 2006, 67, 2100-2105.	1.9	4
86	Uncommonly high upper critical field of the pyrochlore superconductor KOs_2O_6 below the enhanced paramagnetic limit. <i>Physical Review B</i> , 2006, 74, .	1.1	31
87	A photonic band-gap resonator to facilitate GHz-frequency conductivity experiments in pulsed magnetic fields. <i>Review of Scientific Instruments</i> , 2006, 77, 084702.	0.6	4
88	Fermi surface as a driver for the shape-memory effect in AuZn. <i>Journal of Physics Condensed Matter</i> , 2005, 17, L69-L75.	0.7	15
89	Catastrophic Fermi Surface Reconstruction in the Shape-Memory Alloy AuZn. <i>Physical Review Letters</i> , 2005, 94, 116401.	2.9	22
90	Landau Quantization Effects in the Charge-Density-Wave System $(\text{Per})_2\text{M}(\text{mnt})_2$ (where M=Au and Pt). <i>Physical Review Letters</i> , 2005, 94, 106404.	2.9	12

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91	Charge-Density Waves Survive the Pauli Paramagnetic Limit. Physical Review Letters, 2004, 93, 076405.	2.9	27
92	Angle-dependent magnetoresistance of the layered organic superconductor $(\text{ET})_2\text{Cu}(\text{NCS})_2$: Simulation and experiment. Physical Review B, 2004, 69, .	1.1	58