

Gavin Burnell

List of Publications by Year in descending order

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132
papers

3,811
citations

172386

29
h-index

133188

59
g-index

133
all docs

133
docs citations

133
times ranked

4135
citing authors

#	ARTICLE	IF	CITATIONS
1	Large low-field magnetoresistance in La _{0.7} Ca _{0.3} MnO ₃ induced by artificial grain boundaries. <i>Nature</i> , 1997, 387, 266-268.	13.7	433
2	Measuring and tailoring the Dzyaloshinskii-Moriya interaction in perpendicularly magnetized thin films. <i>Physical Review B</i> , 2014, 90, .	1.1	351
3	Transformation of spin information into large electrical signals using carbon nanotubes. <i>Nature</i> , 2007, 445, 410-413.	13.7	325
4	Critical Current Oscillations in Strong Ferromagnetic δ -Junctions. <i>Physical Review Letters</i> , 2006, 97, 177003.	2.9	201
5	Beating the Stoner criterion using molecular interfaces. <i>Nature</i> , 2015, 524, 69-73.	13.7	151
6	Magnetic microscopy and topological stability of homochiral Néel domain walls in a Pt/Co/AlO _x trilayer. <i>Nature Communications</i> , 2015, 6, 8957.	5.8	117
7	Zero to $\langle \text{mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"> \langle \text{mml:mi} \rangle \langle \text{mml:mi} \rangle \langle \text{mml:math} \rangle$ transition in superconductor-ferromagnet-superconductor junctions. <i>Physical Review B</i> , 2007, 76, .	1.1	99
8	Controllable Josephson current through a pseudospin-valve structure. <i>Applied Physics Letters</i> , 2004, 84, 1153-1155.	1.5	90
9	Diameter-independent skyrmion Hall angle observed in chiral magnetic multilayers. <i>Nature Communications</i> , 2020, 11, 428.	5.8	89
10	Modification of perpendicular magnetic anisotropy and domain wall velocity in Pt/Co/Pt by voltage-induced strain. <i>Scientific Reports</i> , 2015, 5, 7921.	1.6	82
11	Discrete Hall resistivity contribution from Néel skyrmions in multilayer nanodiscs. <i>Nature Nanotechnology</i> , 2018, 13, 1161-1166.	15.6	81
12	Planar superconductor-normal-superconductor Josephson junctions in MgB ₂ . <i>Applied Physics Letters</i> , 2001, 79, 3464-3466.	1.5	74
13	Biotemplated Magnetic Nanoparticle Arrays. <i>Small</i> , 2012, 8, 204-208.	5.2	66
14	Fabrication of nanoscale heterostructure devices with a focused ion beam microscope. <i>Nanotechnology</i> , 2003, 14, 630-632.	1.3	63
15	Characteristics of strong ferromagnetic Josephson junctions with epitaxial barriers. <i>Physical Review B</i> , 2005, 71, .	1.1	62
16	Controlled suppression of superconductivity by the generation of polarized Cooper pairs in spin-valve structures. <i>Physical Review B</i> , 2015, 91, .	1.1	62
17	Frustration and thermalization in an artificial magnetic quasicrystal. <i>Nature Physics</i> , 2018, 14, 309-314.	6.5	62
18	Pinning and hysteresis in the field dependent diameter evolution of skyrmions in Pt/Co/Ir superlattice stacks. <i>Scientific Reports</i> , 2017, 7, 15125.	1.6	61

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19	Spin-polarized electron transfer in Cu/Nb ferromagnet heterostructures. Physical Review B, 2014, 90, .	0.6	58
20	SCENET roadmap for superconductor digital electronics. Physica C: Superconductivity and Its Applications, 2006, 439, 1-41.	0.6	58
21	Deterministic Field-Free Skyrmion Nucleation at a Nanoengineered Injector Device. Nano Letters, 2019, 19, 7246-7255.	4.5	56
22	Remotely induced magnetism in a normal metal using a superconducting spin-valve. Nature Physics, 2016, 12, 57-61.	6.5	55
23	Proximity and Josephson effects in superconductor/antiferromagnetic $\text{Nb/Fe}_50\text{Mn}_50$ heterostructures. Physical Review B, 2003, 68, .	1.1	44
24	Controlled, perfect ordering in ultrathin anodic aluminum oxide templates on silicon. Applied Physics Letters, 2007, 91, 143123.	1.5	40
25	A review of methods for the accurate determination of the chiral indices of carbon nanotubes from electron diffraction patterns. Carbon, 2011, 49, 4961-4971.	5.4	34
26	Observation of Anomalous Meissner Screening in Cu/Nb and Cu/Nb Thin Films. Physical Review Letters, 2018, 120, 247001.	2.9	34
27	Active supercurrent control in superconductor/ferromagnet heterostructures. IEEE Transactions on Applied Superconductivity, 2001, 11, 904-907.	1.1	33
28	Directly coupled superconducting quantum interference device magnetometer fabricated in magnesium diboride by focused ion beam. Applied Physics Letters, 2002, 81, 102-104.	1.5	33
29	Conductance features in point contact Andreev reflection spectra. Journal of Physics Condensed Matter, 2009, 21, 095701.	0.7	30
30	Alternating current Josephson effect in intrinsic Josephson bridges in $\text{Tl}_2\text{Ba}_2\text{CaCu}_2\text{O}_8$ thin films. Applied Physics Letters, 2000, 76, 3603-3605.	1.5	29
31	Realization and properties of $\text{YBa}_2\text{Cu}_3\text{O}_7$ Josephson junctions by metal masked ion damage technique. Applied Physics Letters, 2002, 80, 814-816.	1.5	29
32	Critical currents in vicinal $\text{YBa}_2\text{Cu}_3\text{O}_7$ films. Physical Review B, 2004, 70, .	1.1	29
33	Synthetic ferrimagnet nanowires with very low critical current density for coupled domain wall motion. Scientific Reports, 2017, 7, 1640.	1.6	28
34	Disorder-induced collapse of the electron-phonon coupling in MgB_2 observed by Raman spectroscopy. Physical Review B, 2003, 68, .	1.1	27
35	Spin relaxation through Kondo scattering in Cu/Py lateral spin valves. Physical Review B, 2015, 92, .	1.1	25
36	Magnetic properties, domain-wall creep motion, and the Dzyaloshinskii-Moriya interaction in Pt/Co/Ir thin films. Physical Review B, 2018, 97, .	1.1	24

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37	Oscillations in nanostructured Nb/Fe/Nb Josephson junctions. <i>European Physical Journal B</i> , 2007, 58, 123-126.	0.6	23
38	Analysis of Fe _{1-y} Se _{1-x} Te _x thin films grown by radio frequency sputtering. <i>Superconductor Science and Technology</i> , 2011, 24, 075023.	1.8	22
39	Emergent magnetism at transition-metal nanocarbon interfaces. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2017, 114, 5583-5588.	3.3	20
40	Nanomagnetic Arrays Formed with the Biomineralization Protein Mms6. <i>Journal of Nano Research</i> , 0, 17, 127-146.	0.8	18
41	Manifestation of the electromagnetic proximity effect in superconductor-ferromagnet thin film structures. <i>Applied Physics Letters</i> , 2019, 115, .	1.5	18
42	Thermally and field-driven mobility of emergent magnetic charges in square artificial spin ice. <i>Scientific Reports</i> , 2019, 9, 15989.	1.6	18
43	Transport properties of sharp antiferromagnetic boundaries in Gd/Fe multilayers. <i>Physical Review B</i> , 2004, 69, .	1.1	17
44	Realization and properties of MgB ₂ metal-masked ion damage junctions. <i>Applied Physics Letters</i> , 2002, 81, 3600-3602.	1.5	16
45	Decoupling of a current-biased intrinsic Josephson junction from its environment. <i>Physical Review B</i> , 2003, 67, .	1.1	16
46	Josephson fluxon flow and phase diffusion in thin-film intrinsic Josephson junctions. <i>Journal of Applied Physics</i> , 2004, 95, 4941-4948.	1.1	16
47	Controlling the electromagnetic proximity effect by tuning the mixing between superconducting and ferromagnetic order. <i>Physical Review B</i> , 2019, 100, .	1.1	15
48	The effect of oxygenation on the superconducting properties of MgB ₂ thin films. <i>Applied Physics Letters</i> , 2005, 86, 022502.	1.5	14
49	Electrical transport between epitaxial manganites and carbon nanotubes. <i>Applied Physics Letters</i> , 2006, 88, 083120.	1.5	13
50	Capacitance measurements on grain boundaries in Y _{1-x} CaxBa ₂ Cu ₃ O _{7-δ} . <i>Physical Review B</i> , 2004, 70, .	1.1	12
51	Optical conversion of pure spin currents in hybrid molecular devices. <i>Nature Communications</i> , 2017, 8, 926.	5.8	12
52	Spin-valve Josephson junctions with perpendicular magnetic anisotropy for cryogenic memory. <i>Applied Physics Letters</i> , 2020, 116, 022601.	1.5	12
53	Origin of superconductivity at nickel-bismuth interfaces. <i>Physical Review Research</i> , 2020, 2, .	1.3	12
54	Microstructural and electron spectroscopic characterization of carbon nanostructures and nanotubes produced using multimetal catalysts. <i>Journal of Physics and Chemistry of Solids</i> , 1997, 58, 1091-1102.	1.9	11

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55	Nanoscale SNS junction fabrication in superconductor-normal metal bilayers. IEEE Transactions on Applied Superconductivity, 2001, 11, 1126-1129.	1.1	11
56	Capacitance as a probe of high angle grain boundary transport in oxide superconductors. IEEE Transactions on Applied Superconductivity, 2001, 11, 418-421.	1.1	11
57	In situ fabrication of a cross-bridge Kelvin resistor structure by focused ion beam microscopy. Nanotechnology, 2004, 15, 786-789.	1.3	11
58	The normal-state resistivity of grain boundaries in YBa ₂ Cu ₃ O _{7-δ} . Applied Physics Letters, 2004, 84, 4089-4091.	1.5	11
59	Nucleation and propagation of domain walls in a Co/Pt multilayer wire. Journal of Applied Physics, 2007, 101, 09F508.	1.1	11
60	Reconfigurable superconducting vortex pinning potential for magnetic disks in hybrid structures. Scientific Reports, 2017, 7, 45182.	1.6	11
61	Control of Superconductivity with a Single Ferromagnetic Layer in Niobium/Erbium Bilayers. Physical Review Applied, 2017, 7, .	1.5	11
62	Sub-micron thin film intrinsic Josephson junctions. IEEE Transactions on Applied Superconductivity, 2003, 13, 821-824.	1.1	10
63	Reversible spin storage in metal oxide/fullerene heterojunctions. Science Advances, 2020, 6, eaax1085.	4.7	10
64	Enhanced Spin-Orbit Coupling in Heavy Metals via Molecular Coupling. ACS Applied Materials & Interfaces, 2021, 13, 5228-5234.	4.0	10
65	Masked ion damage and implantation for device fabrication. Vacuum, 2002, 69, 11-15.	1.6	9
66	Interface properties of Pb/InAs planar structures for Andreev spectroscopy. Applied Physics Letters, 2008, 92, .	1.5	8
67	Spin transfer switching and low-field precession in exchange-biased spin valve nanopillars. Applied Physics Letters, 2008, 92, .	1.5	8
68	Irreversible magnetization switching at the onset of superconductivity in a superconductor ferromagnet hybrid. Applied Physics Letters, 2015, 107, .	1.5	8
69	Irradiation damage technology for manufacturable Josephson junctions. Nuclear Instruments & Methods in Physics Research B, 2002, 188, 183-188.	0.6	7
70	Multiple-peak switching current distribution in LaBaCaCuO intrinsic Josephson junctions. Physica C: Superconductivity and Its Applications, 2002, 372-376, 322-326.	0.6	7
71	Corbino geometry Josephson junction. Physical Review B, 2003, 67, .	1.1	7
72	Device Fabrication and Optimisation for Josephson Broadband Spectroscopy of Ferroelectric Thin Films. Ferroelectrics, 2005, 329, 125-130.	0.3	7

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73	Current-perpendicular-to-plane giant magnetoresistance in submicron pseudo-spin-valve devices. Physical Review B, 2005, 72, .	1.1	7
74	Dielectric characterization of strontium titanate thin films using Josephson-junction-based on-chip resonators. Superconductor Science and Technology, 2006, 19, 427-432.	1.8	7
75	Continuously tuneable critical current in superconductor-ferromagnet multilayers. Applied Physics Letters, 2017, 110, 262601.	1.5	7
76	Domain wall energy and strain in Pt/Co/Ir thin films on piezoelectric transducers. Journal of Physics Condensed Matter, 2018, 30, 344002.	0.7	7
77	Spin-singlet to triplet Cooper pair converter interface. Communications Physics, 2021, 4, .	2.0	7
78	Distortions to the penetration depth and coherence length of superconductor/normal-metal superlattices. Physical Review Materials, 2020, 4, .	0.9	7
79	Asymmetry modulated SQUIDS. Superconductor Science and Technology, 2000, 13, 983-988.	1.8	6
80	Y-BA-Cu-O grain boundary resistivity above and below the critical temperature. IEEE Transactions on Applied Superconductivity, 2003, 13, 2886-2889.	1.1	6
81	Normal-state properties of high-angle grain boundaries in(Y,Ca)Ba ₂ Cu ₃ O _{7-δ} . Physical Review B, 2005, 71, .	1.1	6
82	In situ magnetoresistance measurements during nanopatterning of pseudo-spin-valve structures. Journal of Applied Physics, 2005, 97, 054302.	1.1	6
83	Prospects for detection of spin accumulation using submicron planar Andreev array spectroscopy. Applied Physics Letters, 2006, 89, 262505.	1.5	6
84	Transport and Magnetic Properties of Strong Ferromagnetic Pi-Junctions. IEEE Transactions on Applied Superconductivity, 2007, 17, 641-644.	1.1	6
85	Remote domain wall chirality measurement via stray field detection. Journal of Applied Physics, 2011, 110, 123912.	1.1	6
86	Numerical model of crossed Andreev reflection and charge imbalance. Physical Review B, 2012, 86, .	1.1	6
87	Transport spin polarization of the rare-earth transition-metal alloy Co _{1-x} Gd _x . Physical Review B, 2012, 85, .		
88	Effects of poling and crystallinity on the dielectric properties of Pb(In _{1/2} Nb _{1/2})O ₃ -Pb(Mg _{1/3} Nb _{2/3})O ₃ -PbTiO ₃ at cryogenic temperatures. Scientific Reports, 2019, 9, 2442.	1.6	6
89	Phase boundary exchange coupling in the mixed magnetic phase regime of a Pd-doped FeRh epilayer. Physical Review Materials, 2020, 4, .	0.9	6
90	Electronic cooling in Nb/AlO _x /Al/AlO _x /Nb double tunnel junctions. IEEE Transactions on Applied Superconductivity, 1997, 7, 2415-2418.	1.1	5

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91	Nanofabricated SNS junction series arrays in superconductor-normal metal bilayers. Superconductor Science and Technology, 2001, 14, 1086-1089.	1.8	5
92	Grain Boundary Properties of Tl-2212 and Tl-1223 Thin Films. IEEE Transactions on Applied Superconductivity, 2005, 15, 2931-2934.	1.1	5
93	Stochastic switching asymmetry in magnetoresistive stacks due to adjacent nanowire stray field. Applied Physics Letters, 2012, 101, 262404.	1.5	5
94	High contrast 3D proximity correction for electron-beam lithography: An enabling technique for the fabrication of suspended masks for complete device fabrication within an UHV environment. Microelectronic Engineering, 2015, 143, 5-10.	1.1	5
95	Meissner screening as a probe for inverse superconductor-ferromagnet proximity effects. Physical Review B, 2021, 104, .	1.1	5
96	Voltage responses to optical pulses of unbiased normal and superconducting samples. Applied Physics Letters, 1997, 71, 1415-1417.	1.5	4
97	In situ magnetoresistance measurements during patterning of spin valve devices. Journal of Applied Physics, 2002, 91, 8575.	1.1	4
98	Asymmetry modulated SQUIDs made by direct focused ion beam milling. Physica C: Superconductivity and Its Applications, 2002, 368, 241-245.	0.6	4
99	Nanoscale superconductorâ€“normal metalâ€“superconductor junctions fabricated by focused ion beam. Physica C: Superconductivity and Its Applications, 2002, 372-376, 14-17.	0.6	4
100	Absence of spin scattering of in-plane spring domain walls. Physical Review B, 2005, 71, .	1.1	4
101	Spin Valve Josephson Junctions. IEEE Transactions on Applied Superconductivity, 2005, 15, 908-911.	1.1	4
102	Device fabrication with precisely placed carbon nanotubes of known chiral vector. Journal of Physics: Conference Series, 2010, 241, 012082.	0.3	4
103	Transport measurements on carbon nanotubes structurally characterized by electron diffraction. Physical Review B, 2011, 84, .	1.1	4
104	Time-resolved visualization of the magnetization canting induced by field-like spinâ€“orbit torques. Applied Physics Letters, 2020, 117, 212404.	1.5	4
105	Inelastic quasiparticle scattering and multiplication in superconductors. Journal of Applied Physics, 1994, 76, 1105-1110.	1.1	3
106	Epitaxial base layer Nb superconducting tunnel junctions with Ta absorbers. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 1996, 370, 50-52.	0.7	3
107	Niobium-copper superconductor-normal metal-superconductor asymmetry modulated SQUIDs. IEEE Transactions on Applied Superconductivity, 2001, 11, 1243-1246.	1.1	3
108	MgB ₂ junctions and SQUIDs fabricated by focused ion beam. Superconductor Science and Technology, 2003, 16, 254-259.	1.8	3

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109	Josephson effects in MgB/sub 2/ metal masked ion damage junctions. IEEE Transactions on Applied Superconductivity, 2003, 13, 1071-1074.	1.1	3
110	Direct Measurement of Spin Polarization in Ferromagnetic-C<sub>60</sub> Interfaces Using Point-Contact Andreev Reflection. IEEE Transactions on Magnetics, 2014, 50, 1-4.	1.2	3
111	Effects of spin doping and spin injection in the luminescence and vibrational spectrum of C60. Applied Physics Letters, 2014, 105, .	1.5	3
112	Magnetic Phases of Sputter Deposited Thin-Film Erbium. Scientific Reports, 2016, 6, 39021.	1.6	3
113	Probing the spiral magnetic phase in 6â%nm textured erbium using polarised neutron reflectometry. Journal of Physics Condensed Matter, 2017, 29, 055801.	0.7	3
114	Current-induced dynamical tilting of chiral domain walls in curved microwires. Applied Physics Letters, 2020, 116, .	1.5	3
115	Scanning Thermal Microscopy and Ballistic Phonon Transport in Lateral Spin Valves. Physical Review Letters, 2021, 127, 035901.	2.9	3
116	Ferroelectric characterisation using Josephson junctions. IEEE Transactions on Applied Superconductivity, 2001, 11, 1158-1161.	1.1	2
117	Fabrication and Characterization of Sub-Micron Thin Film Intrinsic Josephson Junction Arrays. IEEE Transactions on Applied Superconductivity, 2005, 15, 237-240.	1.1	2
118	Perfectly Ordered, FreeâStanding Nanowire Arrays With Controllable Geometry. Advanced Engineering Materials, 2009, 11, 907-911.	1.6	2
119	Magneto-resistance of Domain Walls inâSuperconductor/Ferromagnet Hybrid Systems. Journal of Superconductivity and Novel Magnetism, 2011, 24, 911-914.	0.8	2
120	Pt and CoB trilayer Josephson π junctions with perpendicular magnetic anisotropy. Scientific Reports, 2021, 11, 11173.	1.6	2
121	Novel Josephson junction geometries in NbCu bilayers fabricated by focused ion beam microscope. Physica C: Superconductivity and Its Applications, 2002, 367, 267-271.	0.6	1
122	Focused ion beam fabrication and properties of nanoscale Josephson junctions for sensors and other applications. Physica Status Solidi C: Current Topics in Solid State Physics, 2005, 2, 1455-1462.	0.8	1
123	Characterisation of MgB2 thin films of varying Tc by Raman spectroscopy. Journal of Physics and Chemistry of Solids, 2006, 67, 333-335.	1.9	1
124	Nanoparticle Arrays: Biotemplated Magnetic Nanoparticle Arrays (Small 2/2012). Small, 2012, 8, 203-203.	5.2	1
125	Planar Andreev Spectroscopy in InAs. AIP Conference Proceedings, 2007, , .	0.3	1
126	Is it possible to fabricate a relaxation oscillation SQUID, using high temperature superconductors and grain boundary junctions?. IEEE Transactions on Applied Superconductivity, 2003, 13, 845-848.	1.1	0

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127	MgB ₂ Thin Film Growth and Characterisation. Materials Science Forum, 2003, 426-432, 3379-3384.	0.3	0
128	Magnesium diboride superconducting quantum interference devices fabricated by focused ion beam. IEEE Transactions on Applied Superconductivity, 2003, 13, 869-872.	1.1	0
129	Giant-Magnetoresistive/Superconducting Contacts and Josephson Junction Devices. IEEE Transactions on Applied Superconductivity, 2005, 15, 904-907.	1.1	0
130	Investigation of YBCO SQUIDS With Gold Damping Resistors. IEEE Transactions on Applied Superconductivity, 2005, 15, 789-792.	1.1	0
131	Nanoscale Ferromagnet-Superconductor Devices for Detection of Crossed Andreev Reflection. IEEE Transactions on Applied Superconductivity, 2009, 19, 706-710.	1.1	0
132	In-situ Electrical Transport Measurements Combined with Scanning Transmission X-ray Microscopy. Microscopy and Microanalysis, 2018, 24, 78-79.	0.2	0