Russell Paul Cowburn

List of Publications by Year
in descending order

117 papers	9,935 citations	71102 41 h-index	33894 99 g-index
117 all docs	117 docs citations	117 times ranked	5725 citing authors

#	Article	IF	Citations
1	Weakly coupled synthetic antiferromagnetic nanodisks with perpendicular magnetic anisotropy for lab-on-chip devices. Applied Physics Letters, 2021, 119, .	3.3	5
2	Voltage-driven displacement of magnetic vortex cores. Journal Physics D: Applied Physics, 2020, 53, 434003.	2.8	6
3	Two-dimensional control of field-driven magnetic bubble movement using Dzyaloshinskiiâ€“Moriya interactions. Applied Physics Letters, 2015, 106, .	3.3	18
4	Influence of Geometry on Domain Wall Dynamics in Permalloy Nanodevices. IEEE Transactions on Magnetics, 2015, 51, 1-4.	2.1	5
5	Resonance in magnetostatically coupled transverse domain walls. Physical Review B, 2014, 90, .	3.2	13
6	Magnetic properties and interlayer coupling of epitaxial Co/Cu films on Si. Journal of Applied Physics, 2014, 116, 063906.	2.5	4
7	Time-resolved Kerr microscopy of coupled transverse domain walls in a pair of curved nanowires. Journal of Applied Physics, 2014, 115, .	2.5	5
8	Multi-bit operations in vertical spintronic shift registers. Nanotechnology, 2014, 25, 105201.	2.6	20
9	Simultaneous magnetoresistance and magneto-optical measurements of domain wall properties in nanodevices. Journal of Applied Physics, 2014, 115, 17C718.	2.5	13
10	Dynamic selective switching in antiferromagnetically-coupled bilayers close to the spin reorientation transition. Applied Physics Letters, 2014, 105, .	3.3	10
11	Soliton propagation in micron-sized magnetic ratchet elements. Applied Physics Letters, 2014, 104, .	3.3	9
12	Improvement of domain wall conduit properties in cobalt nanowires by global gallium irradiation. Nanotechnology, 2013, 24, 345703.	2.6	14
13	Modification of domain-wall propagation in Co nanowires via Ga+ irradiation. European Physical Journal B, 2013, 86, 1.	1.5	15
14	Magnetic ratchet for three-dimensional spintronic memory and logic. Nature, 2013, 493, 647-650.	27.8	180
15	Strain-controlled magnetic domain wall propagation in hybrid piezoelectric/ferromagnetic structures. Nature Communications, 2013, 4, 1378.	12.8	237
16	Coupling and induced depinning of magnetic domain walls in adjacent spin valve nanotracks. Journal of Applied Physics, 2013, 113, 133901.	2.5	7
17	Three dimensional magnetic nanowires grown by focused electron-beam induced deposition. Scientific Reports, 2013, 3, 1492.	3.3	148
18	Dynamic propagation and nucleation in domain wall nanowire devices. Journal of Physics Condensed Matter, 2012, 24, 024222.	1.8	7

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19	Magnetic domain wall induced, localized nanowire reversal. Applied Physics Letters, 2012, 101, 062415.	3.3	7
20	Controllable nucleation and propagation of topological magnetic solitons in CoFeB/Ru ferrimagnetic superlattices. Physical Review B, 2012, 86, .	3.2	20
21	Tuning the interlayer exchange coupling between single perpendicularly magnetized CoFeB layers. Applied Physics Letters, 2012, 100, .	3.3	51
22	Domain wall interactions at a cross-shaped vertex. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2012, 370, 5794-5805.	3.4	5
23	Dynamic Oscillations of Coupled Domain Walls. Physical Review Letters, 2012, 108, 187202.	7.8	29
24	Tunable Remote Pinning of Domain Walls in Magnetic Nanowires. Physical Review Letters, 2011, 106, 087204.	7.8	61
25	Kinetic depinning of a magnetic domain wall above the Walker field. Applied Physics Letters, 2011, 98, 042502.	3.3	16
26	Magnetisation reversal in permalloy nanowires controlled by near-field charge interactions. Applied Physics Letters, 2011, 99, .	3.3	5
27	Chirality dependence of nanoscale ferromagnetic NOT gates. Journal of Applied Physics, 2011, 109, 053904.	2.5	2
28	The influence of wire width on the charge distribution of transverse domain walls and their stray field interactions. Journal of Magnetism and Magnetic Materials, 2010, 322, 2010-2014.	2.3	24
29	Macrospin limit and configurational anisotropy in nanoscale permalloy triangles. Journal of Magnetism and Magnetic Materials, 2010, 322, 2152-2156.	2.3	19
30	Fast domain wall motion in magnetic combÂstructures. Nature Materials, 2010, 9, 980-983.	27.5	105
31	Magnetic imaging of the pinning mechanism of asymmetric transverse domain walls in ferromagnetic nanowires. Applied Physics Letters, 2010, 97, 233102.	3.3	23
32	Asymmetric magnetic <scp>NOT</scp> gate and shift registers for high density data storage. Applied Physics Letters, 2010, 96, .	3.3	22
33	Bidirectional magnetic nanowire shift register. Applied Physics Letters, 2009, 95, .	3.3	33
34	Combined electrical and magneto-optical measurements of the magnetization reversal process at a domain wall trap.. Applied Physics Letters, 2009, 94, 103113.	3.3	12
35	Measuring Domain Wall Fidelity Lengths Using a Chirality Filter. Physical Review Letters, 2009, 102, 057209.	7.8	58
36	Magnetization reversal in individual cobalt micro- and nanowires grown by focused-electron-beam-induced-deposition. Nanotechnology, 2009, 20, 475704.	2.6	60

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37	Six-fold configurational anisotropy and magnetic reversal in nanoscale Permalloy triangles. Journal of Applied Physics, 2009, 106, 063902.	2.5	26
38	Impact of surface roughness on laser surface authentication signatures under linear and rotational displacements. Optics Letters, 2009, 34, 3175.	3.3	17
39	Mechanism for domain wall pinning and potential landscape modification by artificially patterned traps in ferromagnetic nanowires. Physical Review B, 2009, 79, .	3.2	59
40	Domain wall conduit behavior in cobalt nanowires grown by focused electron beam induced deposition. Applied Physics Letters, 2009, 94, 192509.	3.3	63
41	Magnetic domain wall pinning by a curved conduit. Applied Physics Letters, 2009, 95, .	3.3	56
42	Near-Field Interaction between Domain Walls in Adjacent Permalloy Nanowires. Physical Review Letters, 2009, 103, 077206.	7.8	73
43	Magnetic Nanowires for Domain Wall Logic and Ultrahigh Density Data Storage. , 2009, , 219-236.		4
44	Domain wall pinning and potential landscapes created by constrictions and protrusions in ferromagnetic nanowires. Journal of Applied Physics, 2008, 103, .	2.5	117
45	Tuning of biased domain wall depinning fields at Permalloy nanoconstrictions. Journal of Applied Physics, 2008, 103, 073914.	2.5	22
46	High efficiency domain wall gate in ferromagnetic nanowires. Applied Physics Letters, 2008, 93, 163108.	3.3	20
47	Rapid fabrication of nanoneedle arrays by ion sputtering. Nanotechnology, 2008, 19, 015303.	2.6	16
48	Over 40% transverse Kerr effect from Ni80Fe20. Applied Physics Letters, 2008, 92, .	3.3	13
49	Systematic tuning of magnetization reversal in Permalloy nanowires using sloped ends. Journal of Applied Physics, 2007, 101, 09F510.	2.5	3
50	Domain wall cloning in magnetic nanowires. Journal of Applied Physics, 2007, 101, 024308.	2.5	19
51	Champing at the bit. Nature, 2007, 448, 544-545.	27.8	21
52	Change of direction. Nature Materials, 2007, 6, 255-256.	27.5	77
53	Rapid tuning of Ni81Fe19/Au bilayer magnetic properties by focused ion beam intermixing. Journal of Magnetism and Magnetic Materials, 2007, 319, 9-12.	2.3	9
54	APPLIED PHYSICS: Where Have All the Transistors Gone?. Science, 2006, 311, 183-184.	12.6	25

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55	Writing and erasing data in magnetic domain wall logic systems. Journal of Applied Physics, 2006, 100, 123908.	2.5	24
56	VHDL Simulation of Magnetic Domain Wall Logic. IEEE Transactions on Magnetics, 2006, 42, 2754-2756.	2.1	5
57	Stability of magnetization states in submicron Permalloy disks. Journal of Applied Physics, 2006, 99, 08B103.	2.5	2
58	Cycle-by-cycle observation of single-domain-to-vortex transitions in magnetic nanodisks. Applied Physics Letters, 2006, 88, 052501.	3.3	19
59	Magnetic domain wall serial-in parallel-out shift register. Applied Physics Letters, 2006, 89, 102504.	3.3	21
60	Edge roughness and coercivity in magnetic nanostructures. Journal of Physics: Conference Series, 2005, 17, 40-44.	0.4	24
61	Pulsed-field and heat-assisted magnetization switching behaviour in elongated sub-micrometer Permalloy structures. Journal of Magnetism and Magnetic Materials, 2005, 290-291, 165-167.	2.3	1
62	â€˜Fingerprintingâ€™ documents and packaging. Nature, 2005, 436, 475-475.	27.8	178
63	Spatially resolved observation of domain-wall propagation in a submicron ferromagnetic NOT-gate. Applied Physics Letters, 2005, 87, 062503.	3.3	25
64	Variation of domain-wall structures and magnetization ripple spectra in permalloy films with controlled uniaxial anisotropy. Journal of Applied Physics, 2005, 98, 053905.	2.5	15
65	Magnetic Domain-Wall Logic. Science, 2005, 309, 1688-1692.	12.6	1,882
66	Nanometer scale patterning using focused ion beam milling. Review of Scientific Instruments, 2005, 76, 026105.	1.3	26
67	Domain wall diodes in ferromagnetic planar nanowires. Applied Physics Letters, 2004, 85, 2848-2850.	3.3	103
68	Heat-assisted magnetization switching in elongated submicrometer Permalloy structures. Applied Physics Letters, 2004, 85, 1386-1388.	3.3	15
69	Characterization of submicrometer ferromagnetic NOT gates. Journal of Applied Physics, 2004, 95, 8264-8270.	2.5	24
70	Arrays of nanoscale magnetic dots: Fabrication by x-ray interference lithography and characterization. Applied Physics Letters, 2004, 85, 4989-4991.	3.3	83
71	Room temperature performance of submicron bismuth Hall probes. IET Science, Measurement and Technology, 2004, 151, 127-130.	0.7	10
72	Experimental study of the influence of edge roughness on magnetization switching in Permalloy nanostructures. Applied Physics Letters, 2004, 85, 3510-3512.	3.3	56

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73	Artificial domain wall nanotraps in Ni81Fe19 wires. Journal of Applied Physics, 2004, 95, 6717-6719.	2.5	65
74	Thin single layer materials for device application. Journal of Magnetism and Magnetic Materials, 2003, 257, 387-396.	2.3	10
75	Magnetic domain-wall dynamics in a submicrometre ferromagnetic structure. Nature Materials, 2003, 2, 85-87.	27.5	373
76	Magneto-optical Kerr effect analysis of magnetic nanostructures. Journal Physics D: Applied Physics, 2003, 36, 2175-2182.	2.8	168
77	Comparison of simple low-energy ion sources for direct deposition of submicron structures. Nanotechnology, 2003, 14, 416-422.	2.6	0
78	Magnetic domain wall dynamics in a permalloy nanowire. IEEE Transactions on Magnetics, 2003, 39, 2663-2665.	2.1	34
79	Controlled switching of ferromagnetic wire junctions by domain wall injection. IEEE Transactions on Magnetics, 2003, 39, 2860-2862.	2.1	29
80	Superparamagnetism and the future of magnetic random access memory. Journal of Applied Physics, 2003, 93, 9310-9315.	2.5	47
81	Probing antiferromagnetic coupling between nanomagnets. Physical Review B, 2002, 65, .	3.2	90
82	Submicrometer Ferromagnetic NOT Gate and Shift Register. Science, 2002, 296, 2003-2006.	12.6	524
83	Shifted hysteresis loops from magnetic nanowires. Applied Physics Letters, 2002, 81, 4005-4007.	3.3	37
84	Domain wall injection and propagation in planar Permalloy nanowires. Journal of Applied Physics, 2002, 91, 6949.	2.5	93
85	Magnetic nanodots for device applications. Journal of Magnetism and Magnetic Materials, 2002, 242-245, 505-511.	2.3	122
86	Nanosecond pulsed field magnetization reversal in thin-film NiFe studied by Kerr effect magnetometry. Journal Physics D: Applied Physics, 2001, 34, 3019-3023.	2.8	8
87	Micromagnetics simulation of deep-submicron supermalloy disks. Journal of Applied Physics, 2001, 90, 5235-5237.	2.5	38
88	Magnetic nanoelements for magnetoelectronics made by focused-ion-beam milling. Applied Physics Letters, 2001, 79, 3461-3463.	3.3	74
89	Sensing magnetic fields using superparamagnetic nanomagnets. Journal of Applied Physics, 2000, 87, 7082-7084.	2.5	33
90	The attractions of magnetism for nanoscale data storage. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2000, 358, 281-301.	3.4	27

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91	Magnetoresistance behaviour of magnetostatically coupled Ni80Fe20 wires. Journal of Magnetism and Magnetic Materials, 2000, 213, 1-6.	2.3	10
92	Magnetoresistance of constricted ferromagnetic wires. Journal of Applied Physics, 2000, 87, 299-302.	2.5	9
93	Micromagnetics of ferromagnetic equilateral triangular prisms. Journal of Applied Physics, 2000, 88, 5315-5317.	2.5	37
94	Room Temperature Magnetic Quantum Cellular Automata. Science, 2000, 287, 1466-1468.	12.6	919
95	Property variation with shape in magnetic nanoelements. Journal Physics D: Applied Physics, 2000, 33, R1-R16.	2.8	397
96	Lateral interface anisotropy in nanomagnets. Journal of Applied Physics, 2000, 87, 7067-7069.	2.5	37
97	Designing nanostructured magnetic materials by symmetry. Europhysics Letters, 1999, 48, 221-227.	2.0	54
98	Controlling magnetic ordering in coupled nanomagnet arrays. New Journal of Physics, 1999, 1, 16-16.	2.9	81
99	Analytical micromagnetics of near single domain particles. Journal of Applied Physics, 1999, 86, 1035-1040.	2.5	10
100	Domain wall mobility in ultrathin epitaxial Ag/Fe/Ag(001) films. Applied Physics Letters, 1999, 74, 1018-1020.	3.3	12
101	Single-Domain Circular Nanomagnets. Physical Review Letters, 1999, 83, 1042-1045.	7.8	1,105
102	Micromagnetics of the single-domain state of square ferromagnetic nanostructures. Physical Review B, 1998, 58, 9217-9226.	3.2	86
103	Phase transitions in planar magnetic nanostructures. Applied Physics Letters, 1998, 72, 2041-2043.	3.3	100
104	Probing submicron nanomagnets by magneto-optics. Applied Physics Letters, 1998, 73, 3947-3949.	3.3	75
105	Configurational Anisotropy in Nanomagnets. Physical Review Letters, 1998, 81, 5414-5417.	7.8	177
106	Domain-wall dynamics, pinning, and nucleation in ultrathin epitaxial Fe films. Physical Review B, 1998, 58, 11507-11513.	3.2	35
107	Role of remanent domain structure and cubic anisotropy in the reorientation phase transition of ultrathin Ag/Fe/Ag(001) epitaxial films. Physical Review B, 1997, 55, 11593-11603.	3.2	21
108	A new technique for measuring magnetic anisotropies in thin and ultrathin films by magneto-optics. Journal of Applied Physics, 1997, 81, 6879-6883.	2.5	24

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109	High sensitivity measurement of magnetic fields using microcantilevers. Applied Physics Letters, 1997, 71, 2202-2204.	3.3	36
110	Magnetic domains in epitaxial Fe/GaAs micro-patterned wires. Journal of Applied Physics, 1997, 81, 4724-4726.	2.5	10
111	Anisotropic domain evolution in epitaxial Fe/GaAs(001) wires. Physical Review B, 1997, 56, 5443-5451.	3.2	22
112	Multijump Magnetic Switching in In-Plane Magnetized Ultrathin Epitaxial Ag/Fe/Ag(001) Films. Physical Review Letters, 1997, 79, 4018-4021.	7.8	75
113	Magnetic domain formation in lithographically defined antidot Permalloy arrays. Applied Physics Letters, 1997, 70, 2309-2311.	3.3	162
114	Magnetic switching and uniaxial anisotropy in lithographically defined anti-dot Permalloy arrays. Journal of Magnetism and Magnetic Materials, 1997, 173, 193-201.	2.3	49
115	Magneto-optical studies of ultrathin MBE grown Fe/Ag(001) wedges. Journal of Magnetism and Magnetic Materials, 1996, 156, 177-178.	2.3	8
116	Magnetic switching and inâ€plane uniaxial anisotropy in ultrathin Ag/Fe/Ag(100) epitaxial films. Journal of Applied Physics, 1995, 78, 7210-7219.	2.5	191
117	Digital logic using magnetic nanostructures. , 0, , .		0