Kevin Edmonds

List of Publications by Year
in descending order

136 papers	7,363 citations	81900 39 h-index	54911 84 g-index
136 all docs	136 docs citations	136 times ranked	5383 citing authors

#	Article	IF	Citations
1	Electrical switching of an antiferromagnet. Science, 2016, 351, 587-590.	12.6	1,049
2	Mn Interstitial Diffusion in(Ga,Mn)As. Physical Review Letters, 2004, 92, 037201.	7.8	476
3	Electric field control of deterministic current-induced magnetization switching in a hybrid ferromagnetic/ferroelectric structure. Nature Materials, 2017, 16, 712-716.	27.5	401
4	Prospects for high temperature ferromagnetism in (Ga,Mn)As semiconductors. Physical Review B, 2005, 72, .	3.2	382
5	High-Curie-temperature Ga1â˜'xMnxAs obtained by resistance-monitored annealing. Applied Physics Letters, 2002, 81, 4991-4993.	3.3	318
6	In-plane uniaxial anisotropy rotations in (Ga,Mn)As thin films. Physical Review B, 2005, 71, .	3.2	188
7	Achieving high Curie temperature in (Ga,Mn)As. Applied Physics Letters, 2008, 93, .	3.3	165
8	Imaging Current-Induced Switching of Antiferromagnetic Domains in CuMnAs. Physical Review Letters, 2017, 118, 057701.	7.8	153
9	Non-volatile ferroelectric control of ferromagnetism in (Ga,Mn)As. Nature Materials, 2008, 7, 464-467.	27.5	150
10	Antiferromagnetic CuMnAs multi-level memory cell with microelectronic compatibility. Nature Communications, 2017, 8, 15434.	12.8	149
11	Character of states near the Fermi level in (Ga,Mn)As: Impurity to valence band crossover. Physical Review B, 2007, 76, .	3.2	139
12	Spin Reorientation Transition in Single-Domain(Ga,Mn)As. Physical Review Letters, 2005, 95, 217204.	7.8	133
13	Curie Point Singularity in the Temperature Derivative of Resistivity in (Ga,Mn)As. Physical Review Letters, 2008, 101, 077201.	7.8	132
14	Hall effect and hole densities in Ga1â˜'xMnxAs. Applied Physics Letters, 2002, 81, 3010-3012.	3.3	125
15	Tetragonal phase of epitaxial room-temperature antiferromagnet CuMnAs. Nature Communications, 2013, 4, 2322.	12.8	123
16	Deterministic Magnetization Switching Using Lateral Spinâ€“Orbit Torque. Advanced Materials, 2020, 32, e1907929.	21.0	123
17	Current polarity-dependent manipulation of antiferromagnetic domains. Nature Nanotechnology, 2018, 13, 362-365.	31.5	116
18	Anisotropic Magnetoresistance Components in (Ga,Mn)As. Physical Review Letters, 2007, 99, 147207.	7.8	107

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19	Adjustable Currentâ€Induced Magnetization Switching Utilizing Interlayer Exchange Coupling. Advanced Electronic Materials, 2018, 4, 1800224.	5.1	105
20	Optical determination of the NÃ©el vector in a CuMnAs thin-film antiferromagnet. Nature Photonics, 2017, 11, 91-96.	31.4	103
21	Ferromagnetic moment and antiferromagnetic coupling in (Ga,Mn)As thin films. Physical Review B, 2005, 71, .	3.2	101
22	Dc-transport properties of ferromagnetic (Ga,Mn)As semiconductors. Applied Physics Letters, 2003, 83, 320-322.	3.3	98
23	Anisotropic magnetoresistance and magnetic anisotropy in high-quality (Ga,Mn)As films. Physical Review B, 2005, 72, .	3.2	93
24	Spin-orbit torque in Pt/CoNiCo/Pt symmetric devices. Scientific Reports, 2016, 6, 20778.	3.3	92
25	Voltage control of magnetocrystalline anisotropy in ferromagnetic-semiconductor-piezoelectric hybrid structures. Physical Review B, 2008, 78, .	3.2	90
26	Large Tunneling Anisotropic Magnetoresistance in (Ga,Mn)As Nanoconstrictions. Physical Review Letters, 2005, 94, 127202.	7.8	88
27	Sol-gel formation of ordered nanostructured doped ZnO films. Journal of Materials Chemistry, 2004, 14, 1087.	6.7	87
28	Surface effects in Mn L3,2 x-ray absorption spectra from (Ga,Mn)As. Applied Physics Letters, 2004, 84, 4065-4067.	3.3	82
29	Non-volatile voltage control of magnetization and magnetic domain walls in magnetostrictive epitaxial thin films. Applied Physics Letters, 2012, 101, 072402.	3.3	79
30	Magnetostrictive thin films for microwave spintronics. Scientific Reports, 2013, 3, 2220.	3.3	73
31	Spin Logic Devices via Electric Field Controlled Magnetization Reversal by Spin-Orbit Torque. IEEE Electron Device Letters, 2019, 40, 1554-1557.	3.9	69
32	Antiferromagnetic structure in tetragonal CuMnAs thin films. Scientific Reports, 2015, 5, 17079.	3.3	68
33	Influence of the Mn interstitial on the magnetic and transport properties of (Ga,Mn)As. Journal of Applied Physics, 2004, 95, 6512-6514.	2.5	66
34	Magnetism in (Ga,Mn)As Thin Films With TC Up To 173K. AIP Conference Proceedings, 2005, , .	0.4	60
35	Tuning Interfacial Spins in Antiferromagneticâ€“Ferromagneticâ€“Heavy-Metal Heterostructures via Spin-Orbit Torque. Physical Review Applied, 2020, 13, .	3.8	57
36	Magnetoresistance and Hall effect in the ferromagnetic semiconductor Ga1â^'xMnxAs. Journal of Applied Physics, 2003, 93, 6787-6789.	2.5	56

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37	Manipulation of Magnetization by Spinâ€“Orbit Torque. Advanced Quantum Technologies, 2019, 2, 1800052.	3.9	50
38	Low-temperature magnetization of (Ga,Mn)As semiconductors. Physical Review B, 2006, 73, .	3.2	48
39	Control of coercivities in (Ga,Mn)As thin films by small concentrations of MnAs nanoclusters. Applied Physics Letters, 2006, 88, 022510.	3.3	41
40	Piezo Voltage Controlled Planar Hall Effect Devices. Scientific Reports, 2016, 6, 28458.	3.3	40
41	Angle-Dependent X-Ray Magnetic Circular Dichroism from (Ga,Mn)As: Anisotropy and Identification of Hybridized States. Physical Review Letters, 2006, 96, 117207.	7.8	39
42	Magnetoresistance oscillations due to internal Landau band structure of a two-dimensional electron system in a periodic magnetic field. Physical Review B, 2001, 64, .	3.2	38
43	(Ga,Mn)As grown on (311) GaAs substrates: Modified Mn incorporation and magnetic anisotropies. Physical Review B, 2005, 72, .	3.2	37
44	Intrinsic and extrinsic contributions to the lattice parameter of GaMnAs. Applied Physics Letters, 2005, 86, 071902.	3.3	37
45	Microscopic Analysis of the Valence Band and Impurity Band Theories of (Ga,Mn)As. Physical Review Letters, 2010, 105, 227202.	7.8	36
46	P-type conductivity in cubic GaMnN layers grown by molecular beam epitaxy. Semiconductor Science and Technology, 2004, 19, L13-L16.	2.0	35
47	Molecular beam epitaxy grown (Ga,Mn)(As,P) with perpendicular to plane magnetic easy axis. Journal of Applied Physics, 2008, 104, .	2.5	35
48	p-type conductivity in cubic (Ga,Mn)N thin films. Applied Physics Letters, 2005, 86, 152114.	3.3	34
49	High Curie temperatures at low compensation in the ferromagnetic semiconductor (Ga,Mn)As. Physical Review B, 2013, 87, .	3.2	34
50	Even-odd transition in the Shubnikovâ€“de Haas oscillations in a two-dimensional electron gas subjected to periodic magnetic and electric modulations. Physical Review B, 2002, 66, .	3.2	32
51	Anisotropic current-controlled magnetization reversal in the ferromagnetic semiconductor (Ga,Mn)As. Applied Physics Letters, 2013, 103, 022401.	3.3	32
52	Quenching of an antiferromagnet into high resistivity states using electrical or ultrashort optical pulses. Nature Electronics, 2021, 4, 30-37.	26.0	31
53	Exchange bias in a ferromagnetic semiconductor induced by a ferromagnetic metal: Fe/(Ga,Mn)As bilayer films studied by XMCD measurements and SQUID magnetometry. Physical Review B, 2010, 81, .	3.2	30
54	Determining Curie temperatures in dilute ferromagnetic semiconductors: High Curie temperature (Ga,Mn)As. Applied Physics Letters, 2014, 104, .	3.3	29

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55	Domain imaging and domain wall propagation in (Ga, Mn)As thin films with tensile strain. Journal of Applied Physics, 2007, 101, 106101.	2.5	27
56	Spin flop and crystalline anisotropic magnetoresistance in CuMnAs. Physical Review B, 2020, 101, .	3.2	27
57	Giant anisotropy in x-ray magnetic linear dichroism in(Ga,Mn)As. Physical Review B, 2006, 73, .	3.2	26
58	Electrical control of magnetic reversal processes in magnetostrictive structures. Applied Physics Letters, 2013, 102, .	3.3	26
59	Current-driven domain wall motion across a wide temperature range in a (Ga,Mn)(As,P) device. Applied Physics Letters, 2010, 97, .	3.3	25
60	Magneto-Seebeck microscopy of domain switching in collinear antiferromagnet CuMnAs. Physical Review Materials, 2020, 4, .	2.4	25
61	Domain Walls in the<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mo stretchy="false">(</mml:mo><mml:mi>Ga</mml:mi><mml:mo>,</mml:mo><mml:mi>Mn</mml:mi><mml:mo) Tj ET q1 1 0.284314 rg Physical Review Letters, 2008, 100, 047202.	7.8	24
62	Determination of the Mn concentration in GaMnAs. Semiconductor Science and Technology, 2005, 20, 369-373.	2.0	22
63	Depth dependence of the Mn valence and Mn-Mn coupling in (Ga,Mn)N. Physical Review B, 2007, 76, .	3.2	20
64	Toward a low-voltage multiferroic transistor: Magnetic (Ga,Mn)As under ferroelectric control. Applied Physics Letters, 2009, 94, .	3.3	20
65	Mn doping and p-type conductivity in zinc-blende GaMnN layers grown by molecular beam epitaxy. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 2005, 23, 1294.	1.6	19
66	Magnetic properties of sol-gel-derived doped ZnO as a potential ferromagnetic semiconductor: a synchrotron-based study. New Journal of Physics, 2008, 10, 055012.	2.9	18
67	Element-resolved orbital polarization in (III,Mn)As ferromagnetic semiconductors from<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>K</mml:mi></mml:math>-edge x-ray magnetic circular dichroism. Physical Review B, 2010, 81, .	3.2	17
68	Precise tuning of the Curie temperature of (Ga,Mn)As-based magnetic semiconductors by hole compensation: Support for valence-band ferromagnetism. Physical Review B, 2016, 94, .	3.2	17
69	Influence of low temperature annealing on the micromagnetic structure of GaMnAs films. Journal of Applied Physics, 2004, 95, 3225-3227.	2.5	16
70	Local structure around Mn atoms in cubic (Ga,Mn)N thin films probed by fluorescence extended x-ray absorption fine structure. Applied Physics Letters, 2006, 88, 051905.	3.3	16
71	Valence band orbital polarization in III-V ferromagnetic semiconductors. Physical Review B, 2008, 77, .	3.2	16
72	Magnetic domain wall propagation under ferroelectric control. Physical Review B, 2012, 86, .	3.2	16

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73	AMR and magnetometry studies of ultra thin GaMnAs films. Physica Status Solidi C: Current Topics in Solid State Physics, 2006, 3, 4078-4081.	0.8	15
74	Electronic structure of (Ga,Mn)As as seen by synchrotron radiation. Semiconductor Science and Technology, 2015, 30, 043001.	2.0	15
75	Mnâ€ŠL3,2 x-ray absorption from (Ga,Mn)As and (Ga,Mn)N. Journal of Applied Physics, 2004, 95, 7166-7168.	2.5	14
76	Magnetic Linear Dichroism in the Angular Dependence of Core-Level Photoemission from (Ga,Mn)As Using Hard X Rays. Physical Review Letters, 2011, 107, 197601.	7.8	14
77	Ferroelectric polymer gates for non-volatile field effect control of ferromagnetism in (Ga, Mn)As layers. Nanotechnology, 2011, 22, 254004.	2.6	14
78	Three-dimensional Heisenberg critical behavior in the highly disordered dilute ferromagnetic semiconductor (Ga,Mn)As. Physical Review B, 2016, 93, .	3.2	14
79	Deterministic control of magnetic vortex wall chirality by electric field. Scientific Reports, 2017, 7, 7613.	3.3	14
80	Molecular beam epitaxy of CuMnAs. Physical Review Materials, 2020, 4, .	2.4	14
81	Voltage controlled modification of flux closure domains in planar magnetic structures for microwave applications. Applied Physics Letters, 2014, 105, 062405.	3.3	13
82	Measuring the hole chemical potential in ferromagnetic Ga1âˆ’xMnxAsâ•GaAs heterostructures by photoexcited resonant tunneling. Applied Physics Letters, 2007, 90, 082106.	3.3	12
83	Compositional dependence of ferromagnetism in (Al,Ga,Mn)As magnetic semiconductors. Physical Review B, 2008, 78, .	3.2	12
84	Valence-state model of strain-dependent<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mtext>Mn</mml:mtext><mml:mtext>â€‰</mml:mtext><mml:msub><mml:mi>L</mml:mi><mml:mi>r</mml:mi></mml:msub></mml:mrow></mml:math> magnetic circular dichroism from ferromagnetic semiconductors. Physical Review B, 2010, 81, .	3.2	12
85	Enhanced Curie temperature and nonvolatile switching of ferromagnetism in ultrathin (Ga,Mn)As channels. Physical Review B, 2011, 83, .	3.2	12
86	Electrical control of antiferromagnets for the next generation of computing technology. Applied Physics Letters, 2020, 117, .	3.3	12
87	Atomically sharp domain walls in an antiferromagnet. Science Advances, 2022, 8, eabn3535.	10.3	12
88	Tuning perpendicular magnetic anisotropy in (Ga,Mn)(As,P) by thermal annealing. Applied Physics Letters, 2010, 97, 122504.	3.3	11
89	Comparison of micromagnetic parameters of the ferromagnetic semiconductors (Ga,Mn)(As,P) and (Ga,Mn)As. Physical Review B, 2014, 90, .	3.2	11
90	Magnetic linear dichroism in angular-resolved Fe3pand Fe2pcore-level photoemission for thin Fe films on graphite. Physical Review B, 2000, 61, 5026-5032.	3.2	10

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91	Magnetic reversal under external field and current-driven domain wall motion in (Ga,Mn)As: influence of extrinsic pinning. New Journal of Physics, 2008, 10, 085007.	2.9	10
92	Surface morphology and magnetic anisotropy in (Ga,Mn)As. Applied Physics Letters, 2011, 98, 152503.	3.3	10
93	Magnetic domain imaging of ferromagnetic GaMnAs films. Journal of Applied Physics, 2004, 95, 7399-7401.	2.5	9
94	Paramagnetic to antiferromagnetic transition in epitaxial tetragonal CuMnAs (invited). Journal of Applied Physics, 2015, 117, .	2.5	9
95	Control of antiferromagnetic spin axis orientation in bilayer Fe/CuMnAs films. Scientific Reports, 2017, 7, 11147.	3.3	9
96	Secondary magnetic phases in (Ga,Mn)As determined by x-ray magnetic circular dichroism. Journal of Applied Physics, 2007, 102, 023902.	2.5	8
97	Fast switching of magnetization in the ferromagnetic semiconductor (Ga,Mn)(As,P) using nonequilibrium phonon pulses. Applied Physics Letters, 2011, 99, .	3.3	8
98	Defect-driven antiferromagnetic domain walls in CuMnAs films. Nature Communications, 2022, 13, 724.	12.8	8
99	The growth of high quality GaMnAs films by MBE. Journal of Materials Science: Materials in Electronics, 2004, 15, 727-731.	2.2	7
100	EdmondsetÂal.Reply:. Physical Review Letters, 2005, 94, .	7.8	7
101	Magnetic domain structure and magnetization reversal in (311)B Ga0.91Mn0.09As films. Journal of Applied Physics, 2006, 99, 093908.	2.5	7
102	Strain dependence of the Mn anisotropy in ferromagnetic semiconductors observed by x-ray magnetic circular dichroism. Physical Review B, 2008, 77, .	3.2	7
103	Photoemission of Ga_{1â€“x}Mn_x As with high Curie temperature and transformation into MnAs of zincblende structure. Physica Status Solidi (B): Basic Research, 2009, 246, 1435-1439.	1.5	7
104	Piezoelectric strain induced variation of the magnetic anisotropy in a high Curie temperature (Ga,Mn)As sample. Applied Physics Letters, 2012, 101, 082406.	3.3	7
105	Crystalline anisotropic magnetoresistance in quaternary ferromagnetic semiconductor (Ga,Mn)(As,Sb). Applied Physics Letters, 2013, 102, .	3.3	7
106	Identification of the interstitial Mn site in ferromagnetic (Ga,Mn)As. Applied Physics Letters, 2015, 106, .	3.3	7
107	Non-volatile ferroelectric gating of magnetotransport anisotropy in (Ga,Mn)(As,P). Applied Physics Letters, 2012, 100, .	3.3	6
108	Temperature dependence of spin-orbit torque effective fields in the diluted magnetic semiconductor (Ga,Mn)As. Applied Physics Letters, 2014, 105, 012402.	3.3	6

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109	Switching the uniaxial magnetic anisotropy by ion irradiation induced compensation. Journal Physics D: Applied Physics, 2018, 51, 145001.	2.8	6
110	Ferromagnetic nanodevices based on (Ga,Mn)As. Current Opinion in Solid State and Materials Science, 2006, 10, 108-113.	11.5	5
111	Characterization of Ga1â^'xMnxAs/(001)GaAs epilayers grown by low-temperature molecular beam epitaxy. Philosophical Magazine Letters, 2006, 86, 395-401.	1.2	5
112	Magnetic and structural properties of (Ga,Mn)As/(Al,Ga,Mn)As bilayer films. Applied Physics Letters, 2013, 102, 112404.	3.3	5
113	Low-energy switching of antiferromagnetic CuMnAs/GaP using sub-10 nanosecond current pulses. Journal of Applied Physics, 2020, 127, .	2.5	5
114	Polarized x-ray spectroscopy of quaternary ferromagnetic semiconductor (Ga,Mn)(As,P) thin films. Applied Physics Letters, 2011, 99, 022502.	3.3	4
115	Search For Hole Mediated Ferromagnetism In Cubic (Ga,Mn)N. AIP Conference Proceedings, 2005, , .	0.4	3
116	Manipulation of the magnetic configuration of (Ga,Mn)As nanostructures. Applied Physics Letters, 2009, 95, 062502.	3.3	3
117	Effect of lithographically-induced strain relaxation on the magnetic domain configuration in microfabricated epitaxially grown Fe81Ga19. Scientific Reports, 2017, 7, 42107.	3.3	3
118	Investigation of exchange coupled bilayer Fe/CuMnAs by pumpâ€“probe experiment. Physica Status Solidi - Rapid Research Letters, 2017, 11, 1600441.	2.4	3
119	Multilevel information storage using magnetoelastic layer stacks. Scientific Reports, 2019, 9, 3156.	3.3	3
120	Structural characterization of zincblende Ga1â^'xMnxN epilayers grown by molecular beam epitaxy on (001) GaAs substrates. Applied Physics Letters, 2005, 87, 031902.	3.3	2
121	Microstructural characterisation of zinc-blende Ga1-xMnxN grown by MBE as a function of Mn flux. Journal of Physics: Conference Series, 2006, 26, 179-182.	0.4	2
122	Microstructural characterization of low-temperature grown GaMnN on GaAs(0â€‰0â€‰1) substrates by plasma-assisted MBE. Semiconductor Science and Technology, 2007, 22, 1131-1139.	2.0	2
123	Holes respond to strain. Nature Materials, 2007, 6, 472-473.	27.5	2
124	Huge tunnelling anisotropic magnetoresistance in (Ga,Mn)As nanoconstrictions. New Journal of Physics, 2008, 10, 085004.	2.9	2
125	A low field technique for measuring magnetic and magnetoresistance anisotropy coefficients applied to (Ga,Mn)As. Applied Physics Letters, 2009, 95, .	3.3	2
126	Spin switching in antiferromagnets using NÃ©el-order spin-orbit torques. Chinese Physics B, 2018, 27, 107201.	1.4	2

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127	Magnetic coupling in ferromagnetic semiconductor (Ga,Mn)As/(Al,Ga,Mn)As bilayers. Journal of Applied Physics, 2015, 118, 053913.	2.5	1
128	Thermal stability of interstitial and substitutional Mn in ferromagnetic (Ga,Mn)As. Physical Review B, 2019, 100, .	3.2	1
129	Gating effects in antiferromagnetic CuMnAs. AIP Advances, 2019, 9, 115101.	1.3	1
130	Magnetoresistance oscillations in a periodic magnetic field due to internal Landau band structure. Physica E: Low-Dimensional Systems and Nanostructures, 2002, 12, 212-215.	2.7	0
131	Nanoscale characterisation of electronic and spintronic nitrides and arsenides. Journal of Physics: Conference Series, 2006, 26, 175-178.	0.4	0
132	Conductivity of Cubic GaMnN Grown on Undoped GaN Layers. , 2006, , .		0
133	The growth of high quality GaMnAs layers and heterostructures by molecular beam epitaxy. Physica Status Solidi (B): Basic Research, 2007, 244, 2944-2949.	1.5	0
134	Control of Ferromagnetism in a (Ga, Mn)Asâ€"Based Multiferroic System via a Ferroelectric Gate. , 2010, , .		0
135	Analysing Surface Structures on (Ga, Mn)As by Atomic Force Microscopy. Journal of Nanoscience and Nanotechnology, 2012, 12, 7545-7549.	0.9	0
136	Magnetism and magnetoresistance in the critical region of a dilute ferromagnet. Scientific Reports, 2021, 11, 2300.	3.3	0