

# Brian J Kirby

## List of Publications by Year in descending order

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121  
papers

3,831  
citations

109137

35  
h-index

138251

58  
g-index

125  
all docs

125  
docs citations

125  
times ranked

5432  
citing authors

#	ARTICLE	IF	CITATIONS
1	Realization of ground-state artificial skyrmion lattices at room temperature. Nature Communications, 2015, 6, 8462.	5.8	184
2	Nanoparticle concentration profile in polymer-based solar cells. Soft Matter, 2010, 6, 641-646.	1.2	167
3	The 2020 magnetism roadmap. Journal Physics D: Applied Physics, 2020, 53, 453001.	1.3	162
4	Phase-sensitive specular neutron reflectometry for imaging the nanometer scale composition depth profile of thin-film materials. Current Opinion in Colloid and Interface Science, 2012, 17, 44-53.	3.4	159
5	Tailoring exchange couplings in magnetic topological-insulator/antiferromagnet heterostructures. Nature Materials, 2017, 16, 94-100.	13.3	137
6	Effect of Interfacial Octahedral Behavior in Ultrathin Manganite Films. Nano Letters, 2014, 14, 2509-2514.	4.5	121
7	Optimization of Spin-Triplet Supercurrent in Ferromagnetic Josephson Junctions. Physical Review Letters, 2012, 108, 127002.	2.9	117
8	Chiral modulations and reorientation effects in MnSi thin films. Physical Review B, 2012, 85, .	1.1	109
9	Phonon localization in heat conduction. Science Advances, 2018, 4, eaat9460.	4.7	108
10	Structural and magnetic depth profiles of magneto-ionic heterostructures beyond the interface limit. Nature Communications, 2016, 7, 12264.	5.8	107
11	Controllable positive exchange bias via redox-driven oxygen migration. Nature Communications, 2016, 7, 11050.	5.8	101
12	Pinned magnetization in the antiferromagnet and ferromagnet of an exchange bias system. Physical Review B, 2007, 75, .	1.1	99
13	Interfacial Ferromagnetism and Exchange Bias in $\text{CaRuO}_3$ . Physical Review Letters, 2012, 109, 197202.	2.9	82
14	Proximity-Driven Enhanced Magnetic Order at Ferromagnetic-Insulator/Magnetic-Topological-Insulator Interface. Physical Review Letters, 2015, 115, 087201.	2.9	81
15	Interfacial Ferromagnetism in $\text{LaNiO}_3$ . Physical Review Letters, 2013, 111, 087202.	2.9	82
16	Structural properties of Bi <sub>2</sub> Te <sub>3</sub> and Bi <sub>2</sub> Se <sub>3</sub> topological insulators grown by molecular beam epitaxy on GaAs(001) substrates. Applied Physics Letters, 2011, 99, .	1.5	74
17	Vertically graded anisotropy in Co/Pd multilayers. Physical Review B, 2010, 81, .	1.1	66
18	Exchange-biasing topological charges by antiferromagnetism. Nature Communications, 2018, 9, 2767.	5.8	61

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19	Spin Seebeck Imaging of Spin-Torque Switching in Antiferromagnetic Heterostructures. <i>Physical Review X</i> , 2019, 9, .	2.8	58
20	Helical magnetic order in MnSi thin films. <i>Physical Review B</i> , 2011, 84, .	1.1	56
21	Carrier-Mediated Antiferromagnetic Interlayer Exchange Coupling in Diluted Magnetic Semiconductor Multilayers. <i>Physical Review Letters</i> , 2008, 101, 237202.	2.0	54
22	Ferromagnetic semiconductor GaMnAs. <i>Materials Today</i> , 2009, 12, 14-21.	8.3	52
23	Compensated Ferrimagnetism in the Zero-Moment Heusler Alloy. <i>Physical Review Applied</i> , 2017, 7, .	1.5	52
24	Magnetocaloric effect in nanoscale thin films and heterostructures. <i>Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films</i> , 2014, 32, .	0.9	51
25	Annealing-dependent magnetic depth profile in Ga <sub>1-x</sub> Mn <sub>x</sub> As. <i>Physical Review B</i> , 2004, 69, .	1.1	50
26	Nanoscale ferroelastic twins formed in strained LaCoO <sub>3</sub> films. <i>Science Advances</i> , 2019, 5, eaav5050.	4.7	48
27	Imaging oxygen-induced oxygen vacancy formation in epitaxial La <sub>1-x</sub> Co <sub>x</sub> O <sub>3</sub> thin films. <i>Physical Review B</i> , 2019, 100, 080402.	0.9	44
28	Correlation-driven eightfold magnetic anisotropy in a two-dimensional oxide monolayer. <i>Science Advances</i> , 2020, 6, eaay0114.	4.7	43
29	Complementary polarized neutron and resonant x-ray magnetic reflectometry measurements in Fe/Gd heterostructures: Case of inhomogeneous intralayer magnetic structure. <i>Physical Review B</i> , 2009, 79, .	1.1	42
30	Anomalous ferromagnetism in TbMnO <sub>3</sub> thin films. <i>Journal of Applied Physics</i> , 2009, 105, .	1.1	42
31	Topological Transitions Induced by Antiferromagnetism in a Thin-Film Topological Insulator. <i>Physical Review Letters</i> , 2018, 121, 096802.	2.9	42
32	Dysprosium Iron Garnet Thin Films with Perpendicular Magnetic Anisotropy on Silicon. <i>Advanced Electronic Materials</i> , 2020, 6, 1900820.	2.6	41
33	Phase-sensitive neutron reflectometry measurements applied in the study of photovoltaic films. <i>Journal of Chemical Physics</i> , 2010, 133, 074902.	1.2	40
34	Delta Doping of Ferromagnetism in Antiferromagnetic Manganite Superlattices. <i>Physical Review Letters</i> , 2011, 107, 167202.	2.9	40
35	Exploring interfacial exchange coupling and sublattice effect in heavy metal/ferrimagnetic insulator heterostructures using Hall measurements, x-ray magnetic circular dichroism, and neutron reflectometry. <i>Physical Review B</i> , 2019, 99, .	1.1	39
36	Reversible control of magnetism in La <sub>0.67</sub> Sr <sub>0.33</sub> MnO <sub>3</sub> through chemically-induced oxygen migration. <i>Applied Physics Letters</i> , 2016, 108, .	1.5	33

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37	Ionic tuning of cobaltites at the nanoscale. <i>Physical Review Materials</i> , 2018, 2, .	0.9	32
38	Oscillatory Noncollinear Magnetism Induced by Interfacial Charge Transfer in Superlattices Composed of Metallic Oxides. <i>Physical Review X</i> , 2016, 6, .	2.8	30
39	Interfacial Symmetry Control of Emergent Ferromagnetism at the Nanoscale. <i>Nano Letters</i> , 2016, 16, 5647-5651.	4.5	30
40	Probing vertically graded anisotropy in FePtCu films. <i>Physical Review B</i> , 2011, 84, .	1.1	28
41	Electric Field Control of Interfacial Ferromagnetism in $\text{CaMnO}_3$ . <i>Physical Review Letters</i> , 2015, 115, 047601.	2.9	28
42	Structural $\delta$ Doping to Control Local Magnetization in Isovalent Oxide Heterostructures. <i>Physical Review Letters</i> , 2017, 119, 197204.	2.9	28
43	Observation of antiferromagnetic interlayer exchange coupling in a $\text{Ga}_1\text{Mn}_7$ . <i>Physical Review B</i> , 2010, 82, .	1.1	27
44	Direct observation of magnetic gradient in Co/Pd pressure-graded media. <i>Journal of Applied Physics</i> , 2009, 105, 07C929.	1.1	26
45	Concurrent magnetic and structural reconstructions at the interface of (111)-oriented $\text{La}_{0.7}\text{Sr}_{0.3}\text{MnO}_2$ . <i>Physical Review B</i> , 2010, 82, .	1.1	26
46	Neutron study of in-plane skyrmions in MnSi thin films. <i>Physical Review B</i> , 2017, 96, .	1.1	26
47	X-ray and neutron reflectivity and electronic properties of PCBM-poly(bromo)styrene blends and bilayers with poly(3-hexylthiophene). <i>Journal of Materials Chemistry</i> , 2012, 22, 4364-4370.	6.7	24
48	Definitive evidence of interlayer coupling between $\text{MnAs}$ layers separated by a nonmagnetic spacer. <i>Physical Review B</i> , 2007, 76, .	1.1	23
49	Magnetic properties of epitaxial CoCr films with depth-dependent exchange-coupling profiles. <i>Physical Review B</i> , 2017, 95, .	1.1	23
50	Graded magnetic materials. <i>Journal Physics D: Applied Physics</i> , 2021, 54, 303002.	1.3	23
51	Impact of interfacial magnetism on magnetocaloric properties of thin film heterostructures. <i>Journal of Applied Physics</i> , 2011, 109, 063905.	1.1	22
52	Strong Ferromagnetism Achieved via Breathing Lattices in Atomically Thin Cobaltites. <i>Advanced Materials</i> , 2021, 33, e2001324.	11.1	21
53	Structural control of magnetic anisotropy in a strain-driven multiferroic $\text{EuTiO}_3$ thin film. <i>Physical Review B</i> , 2013, 88, .	1.1	20
54	Interdependence between training and magnetization reversal in granular Co-CoO exchange bias systems. <i>Physical Review B</i> , 2014, 89, .	1.1	20

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55	Magnetic Yoking and Tunable Interactions in FePt-Based Hard/Soft Bilayers. <i>Scientific Reports</i> , 2016, 6, 32842.	1.6	19
56	Spatial Evolution of the Ferromagnetic Phase Transition in an Exchange Graded Film. <i>Physical Review Letters</i> , 2016, 116, 047203.	2.9	19
57	Ferromagnetism in CuO/ZnO multilayers. <i>Applied Physics Letters</i> , 2008, 93, .	1.5	18
58	Birefringent neutron prisms for spin echo scattering angle measurement. <i>Physica B: Condensed Matter</i> , 2009, 404, 2582-2584.	1.3	18
59	Magnetic and chemical nonuniformity in Ga <sub>1-x</sub> Mn <sub>x</sub> As films as probed by polarized neutron and x-ray reflectometry. <i>Physical Review B</i> , 2006, 74, .	1.1	17
60	Synthesis, Fabrication, and Heterostructure of Charged, Substituted Polystyrene Multilayer Dielectrics and Their Effects in Pentacene Transistors. <i>Macromolecules</i> , 2016, 49, 3478-3489.	2.2	17
61	Nanoscale magnetic localization in exchange strength modulated ferromagnets. <i>Physical Review B</i> , 2018, 98, .	1.1	17
62	Tunable Noncollinear Antiferromagnetic Resistive Memory through Oxide Superlattice Design. <i>Physical Review Applied</i> , 2018, 9, .	1.5	16
63	Modulation of Magnetic Properties at the Nanometer Scale in Continuously Graded Ferromagnets. <i>Materials</i> , 2018, 11, 251.	1.3	16
64	Electrically Enhanced Exchange Bias via Solid-State Magneto-ionics. <i>ACS Applied Materials &amp; Interfaces</i> , 2021, 13, 38916-38922.	4.0	16
65	Investigation of weak interlayer exchange coupling in GaMnAs/GaAs superlattices with insulating nonmagnetic spacers. <i>Journal of Applied Physics</i> , 2011, 110, .	1.1	15
66	Large energy product enhancement in perpendicularly coupled MnBi/CoFe magnetic bilayers. <i>Physical Review B</i> , 2016, 94, .	1.1	15
67	Strain-induced majority carrier inversion in ferromagnetic epitaxial LaCoO <sub>3</sub> thin films. <i>Physical Review Materials</i> , 2020, 4, .	0.9	14
68	Large unidirectional spin Hall and Rashba-Edelstein magnetoresistance in topological insulator/magnetic insulator heterostructures. <i>Applied Physics Reviews</i> , 2022, 9, .	5.5	13
69	Interface-Driven Ferromagnetism within the Quantum Wells of a Rare Earth Titanate Superlattice. <i>Physical Review Letters</i> , 2016, 117, 037205.	2.9	12
70	Ultrathin interfacial layer with suppressed room temperature magnetization in magnesium aluminum ferrite thin films. <i>Applied Physics Letters</i> , 2019, 115, .	1.5	12
71	The use of symmetry to correct Larmor phase aberrations in spin echo scattering angle measurement. <i>Review of Scientific Instruments</i> , 2008, 79, 063901.	0.6	11
72	Lateral Magnetically Modulated Multilayers by Combining Ion Implantation and Lithography. <i>Small</i> , 2017, 13, 1603465.	5.2	11

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73	Thickness dependence of ferrimagnetic compensation in amorphous rare-earth transition-metal thin films. Applied Physics Letters, 2018, 113, .	1.5	11
74	Highly Contrasting Static Charging and Bias Stress Effects in Pentacene Transistors with Polystyrene Heterostructures Incorporating Oxidizable $\text{N}^{\oplus}$ , $\text{N}^{\ominus}$ -Bis(4-methoxyphenyl)aniline Side Chains as Gate Dielectrics. Macromolecules, 2018, 51, 6011-6020.	2.2	11
75	Interfacial-Redox-Induced Tuning of Superconductivity in $\text{YBa}_2\text{Cu}_3\text{O}_{7-\delta}$ . ACS Applied Materials & Interfaces, 2020, 12, 4741-4748.	4.0	11
76	Effects of capping on the $\text{Ga}_{1-x}\text{Mn}_x\text{As}$ magnetic depth profile. Applied Physics Letters, 2005, 86, 072506.	1.5	10
77	Correlation between morphology and device performance of pBTTT:PC71BM solar cells. Solar Energy Materials and Solar Cells, 2016, 155, 387-396.	3.0	10
78	Emergent Magnetic State in (111)-Oriented Quasi-Two-Dimensional Spinel Oxides. Nano Letters, 2019, 19, 8381-8387.	4.5	10
79	Measurement and modeling of polarized specular neutron reflectivity in large magnetic fields. Journal of Applied Crystallography, 2016, 49, 1121-1129.	1.9	10
80	Suppression of nuclear polarization near the surface of optically pumped GaAs. Physical Review B, 2007, 76, .	1.1	8
81	(001) FePt graded media with PtMn underlayers. Applied Physics Letters, 2011, 99, 212504.	1.5	8
82	Antiferromagnetic exchange coupling between GaMnAs layers separated by a nonmagnetic GaAs:Be spacer. Journal of Applied Physics, 2011, 109, 07C307.	1.1	8
83	Quasistatic antiferromagnetism in the quantum wells of $\text{SmTiO}_3/\text{SrTiO}_3$ heterostructures. Npj Quantum Materials, 2018, 3, .	1.8	8
84	Controlling spin ordering in frustrated magnets via thin film heteroepitaxy. Physical Review B, 2012, 85, .	1.1	7
85	Morphological characterization of plastic solar cells using polarized neutron reflectivity. Applied Physics Letters, 2013, 102.	1.5	7
86	Magnetoelastic coupling in $\text{La}_{0.7}\text{Ca}_{0.3}\text{MnO}$	1.1	7
87	Magnetic properties and electronic origin of the interface between dilute magnetic semiconductors with orthogonal magnetic anisotropy. Physical Review Materials, 2020, 4, .	0.9	7
88	Distortions to the penetration depth and coherence length of superconductor/normal-metal superlattices. Physical Review Materials, 2020, 4, .	0.9	7
89	Spin dynamics and magnon-phonon interactions in $\text{Nd}_{0.6}\text{Sr}_{0.4}\text{MnO}_3$ . Journal of Magnetism and Magnetic Materials, 2006, 302, 237-243.	1.0	6
90	Magnetic properties of GaAs/Fe core/shell nanowires. Journal of Applied Physics, 2013, 113, 17B520.	1.1	6

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91	Depth-resolved magnetization reversal in nanoporous perpendicular anisotropy multilayers. Journal of Applied Physics, 2013, 113, .	1.1	6
92	Interfacial exchange coupling in Fe/(Ga,Mn)As bilayers. Physical Review B, 2014, 89, .	1.1	6
93	Exchange Coupling in Magnetic Semiconductor Multilayers and Superlattices. Acta Physica Polonica A, 2012, 121, 973-980.	0.2	6
94	Extreme magnetic anisotropy and multiple superconducting transition signatures in a [Nb(23nm)/Ni(5nm)] <sub>5</sub> multilayer. Physica C: Superconductivity and Its Applications, 2008, 468, 523-530.	0.6	5
95	Magnetization reversal of Ga <sub>1-x</sub> Mn <sub>x</sub> As layers separated by a nonmagnetic spacer. Journal of Applied Physics, 2008, 103, 07D116.	1.1	5
96	Characterizing formation of interfacial domain wall and exchange coupling strength in laminated exchange coupled composites. Applied Physics Letters, 2013, 102, 162408.	1.5	5
97	Deposition order dependent magnetization reversal in pressure graded Co/Pd films. Applied Physics Letters, 2014, 104, .	1.5	5
98	Modifying Critical Exponents of Magnetic Phase Transitions via Nanoscale Materials Design. Physical Review Letters, 2021, 127, 147201.	2.9	5
99	Interfacial exchange coupling of the interface between a 20Ånm $Y_3O_{12}$ film and $Y_3O_{12}/Fe_3O_4$ film	0.9	5
100	Interfacial electronic and magnetic properties of a $Y_3O_{12}/Pr_2O_3/Ba_0.4Fe_0.6$ film	1.1	4
101	Structural and magnetic etch damage in CoFeB. Journal of Applied Physics, 2014, 115, .	1.1	4
102	Magnetic depth profile in GaMnAs layers with vertically graded Mn concentrations. Journal of Magnetism and Magnetic Materials, 2014, 350, 135-140.	1.0	4
103	Long-Range Electric Field Control of Permalloy Layers in Strain-Coupled Composite Multiferroics. Physical Review Applied, 2018, 10, .	1.5	4
104	Effect of oxygen stoichiometry on the magnetization profiles and negative magnetization in LSMO thin films. Journal of Applied Physics, 2019, 126, 105301.	1.1	4
105	Differentiation between strain and charge mediated magnetoelectric coupling in $La_{0.7}Sr_{0.3}MnO_3/Pb(Mg_{1/3}Nb_{2/3})_{0.7}Ti_{0.3}$		
106	Magnetization reversal mechanisms in Heusler alloy spin valves. Journal of Applied Physics, 2011, 109, .	1.1	3
107	Using structural phase transitions to enhance the coercivity of ferromagnetic films. APL Materials, 2019, 7, 101115.	2.2	3
108	Direct observation of magnetic proximity effects in amorphous exchange-spring magnets by neutron reflectometry. Physical Review Materials, 2020, 4, .	0.9	3



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109	Correlating magnetic structure and magnetotransport in semimetal thin films of $\text{EuMnO}_3$ Physical Review Materials, 2020, 4, .	0.9	1
110	Magnetotransport and magnetic textures in $\text{Ho/FeCoGd/I}^2$ multilayers. Physical Review B, 2022, 105, .	1.1	3
111	Spin excitations in $[\text{La}_{1-x}\text{Ca}_x\text{MnO}_3]$ in the mixed-phase region. Journal of Applied Physics, 2002, 91, 7511.	1.1	2
112	Pinned Spin Depth Profile of an Oxidized-Mn/Ga <sub>1-x</sub> Mn <sub>x</sub> As Exchange Bias Bilayer—The Effects of Overannealing. IEEE Transactions on Magnetics, 2007, 43, 3016-3018.	1.2	2
113	Effective anisotropy gradient in pressure graded [Co/Pd] multilayers. Journal of Applied Physics, 2015, 117, 063905.	1.1	2
114	Octahedral tilt independent magnetism in confined $\text{GdTiO}_3$ films. Applied Physics Letters, 2018, 112, 132407.	1.5	2
115	Strain-induced competition between ferromagnetism and emergent antiferromagnetism in $(\text{Eu,Sr})\text{MnO}_3$ Physical Review Materials, 2018, 2, .	0.9	2
116	Realization of Ground-State Artificial Skyrmion Lattices at Room Temperature. , 2016, , .		1
117	Polarized neutron reflectometry study of depth dependent magnetization variation in Co thin film due to strain transfer from PMN-PT substrate. Journal of Applied Physics, 2018, 124, 113903.	1.1	1
118	Impact of growth kinetics on the interface morphology and magnetization in $\text{La}_{1/3}\text{Sr}_{2/3}\text{FeO}_3/\text{La}_{2/3}\text{Sr}_{1/3}\text{MnO}_3$ heterostructures. Journal of Physics Condensed Matter, 2020, 32, 165801.	0.7	1
119	Controlling magnetic configuration in soft-hard bilayers probed by polarized neutron reflectometry. APL Materials, 2022, 10, 011107.	2.2	1
120	Application of polarized neutron reflectometry and X-ray resonant magnetic reflectometry for determining the inhomogeneous magnetic structure in Fe/Gd multilayers. Bulletin of the Russian Academy of Sciences: Physics, 2010, 74, 1471-1473.	0.1	0
121	Pulsed laser deposition films from a $\text{Ba}_2\text{FeMoO}_6$ target onto $\text{SrTiO}_3[001]$ : Chemical and magnetic inhomogeneity. Journal of Applied Physics, 2018, 124, 163903.	1.1	0