

Andy Thomas

List of Publications by Year in descending order

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110
papers

3,501
citations

201385

27
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143772

57
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113
all docs

113
docs citations

113
times ranked

4189
citing authors

#	ARTICLE	IF	CITATIONS
1	Memristor-based neural networks. <i>Journal Physics D: Applied Physics</i> , 2013, 46, 093001.	1.3	307
2	Co ₂ MnSi Heusler alloy as magnetic electrodes in magnetic tunnel junctions. <i>Applied Physics Letters</i> , 2004, 85, 79-81.	1.5	280
3	Seebeck effect in magnetic tunnel junctions. <i>Nature Materials</i> , 2011, 10, 742-746.	13.3	260
4	Scaling Behavior of the Spin Pumping Effect in Ferromagnet-Platinum Bilayers. <i>Physical Review Letters</i> , 2011, 107, 046601.	2.9	232
5	Local Charge and Spin Currents in Magnetothermal Landscapes. <i>Physical Review Letters</i> , 2012, 108, 106602.	2.9	225
6	Spin polarization in half-metals probed by femtosecond spin excitation. <i>Nature Materials</i> , 2009, 8, 56-61.	13.3	223
7	The Memristive Magnetic Tunnel Junction as a Nanoscopic Synapse-Neuron System. <i>Advanced Materials</i> , 2012, 24, 762-766.	11.1	184
8	Accessing the fundamentals of magnetotransport in metals with terahertz probes. <i>Nature Physics</i> , 2015, 11, 761-766.	6.5	103
9	Large anomalous Nernst effect in thin films of the Weyl semimetal Co ₂ MnGa. <i>Applied Physics Letters</i> , 2018, 113, .	1.5	92
10	Memristive switching of MgO based magnetic tunnel junctions. <i>Applied Physics Letters</i> , 2009, 95, .	1.5	69
11	Room-temperature preparation and magnetic behavior of Co ₂ MnSi thin films. <i>Journal of Applied Physics</i> , 2003, 93, 7945-7947.	1.1	62
12	Evidence for strong magnon contribution to the TMR temperature dependence in MgO based tunnel junctions. <i>Physical Review B</i> , 2008, 77, .	1.1	56
13	Evolution of the spin hall magnetoresistance in Cr ₂ O ₃ /Pt bilayers close to the Néel temperature. <i>Applied Physics Letters</i> , 2018, 112, .	1.5	55
14	Temperature dependence of the resistance of magnetic tunnel junctions with MgO barrier. <i>Applied Physics Letters</i> , 2006, 88, 212115.	1.5	45
15	On the influence of bandstructure on transport properties of magnetic tunnel junctions with Co ₂ Mn _{1-x} Fe _x Si single and multilayer electrode. <i>Journal of Applied Physics</i> , 2008, 104, 043918.	1.1	45
16	Time-resolved measurement of the tunnel magneto-Seebeck effect in a single magnetic tunnel junction. <i>Review of Scientific Instruments</i> , 2013, 84, 063905.	0.6	43
17	Large magneto-Seebeck effect in magnetic tunnel junctions with half-metallic Heusler electrodes. <i>Nature Communications</i> , 2017, 8, 1626.	5.8	43
18	Large tunnel magnetoresistance in tunnel junctions with Co ₂ MnSi/Co ₂ FeSi multilayer electrode. <i>Applied Physics Letters</i> , 2006, 89, 162506.	1.5	42

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19	Transport properties of magnetic tunnel junctions with Co ₂ MnSi electrodes: The influence of temperature-dependent interface magnetization and electronic band structure. Physical Review B, 2007, 75, .	1.1	42
20	Thickness dependence of the anomalous Nernst effect and the Mott relation of Weyl semimetal thin films. Physical Review B, 2020, 101, .	1.1	40
21	Dielectric breakdown in Co/Fe/B/MgO/Co/Fe/B magnetic tunnel junction. Journal of Applied Physics, 2008, 103, .	1.1	35
22	Inelastic electron tunneling spectra of MgO-based magnetic tunnel junctions with different electrode designs. Physical Review B, 2009, 79, .	1.1	33
23	Evolution of the dielectric breakdown in Co/Al ₂ O ₃ /Co junctions by annealing. Journal of Applied Physics, 2001, 89, 586-589.	1.1	32
24	Anomalous Hall effect in the Co-based Heusler compounds Co ₂ FeSi and Co ₂ FeAl. Journal of Applied Physics, 2012, 111, 07D313.	1.1	29
25	PARAMETER SPACE FOR THERMAL SPIN-TRANSFER TORQUE. Spin, 2013, 03, 1350002.	0.6	29
26	Efficiency of ultrafast optically induced spin transfer in Heusler compounds. Physical Review Research, 2020, 2, .	1.3	29
27	Insights into Ultrafast Demagnetization in Pseudogap Half-Metals. Physical Review X, 2012, 2, .	2.8	28
28	Tunnel junction based memristors as artificial synapses. Frontiers in Neuroscience, 2015, 9, 241.	1.4	28
29	Comparison of laser-induced and intrinsic tunnel magneto-Seebeck effect in CoFeB/MgO and CoFeB/MgO magnetic tunnel junctions. Physical Review B, 2016, 93, .	1.1	26
30	Electric breakdown in ultrathin MgO tunnel barrier junctions for spin-transfer torque switching. Applied Physics Letters, 2009, 95, .	1.5	25
31	Interlayer exchange coupling and current induced magnetization switching in magnetic tunnel junctions with MgO wedge barrier. Journal of Applied Physics, 2010, 107, 093917.	1.1	25
32	Current induced resistance change of magnetic tunnel junctions with ultra-thin MgO tunnel barriers. Journal of Magnetism and Magnetic Materials, 2009, 321, 144-147.	1.0	24
33	Noise properties of magnetic and nonmagnetic tunnel junctions. Journal of Applied Physics, 2003, 93, 7020-7022.	1.1	23
34	Evidence for positive spin polarization in Co with SrTiO ₃ barriers. Journal of Applied Physics, 2005, 97, 10C908.	1.1	23
35	Inverted spin polarization of Heusler alloys for spintronic devices. Applied Physics Letters, 2006, 89, 012502.	1.5	23
36	A memristor based on current-induced domain-wall motion in a nanostructured giant magnetoresistance device. Journal of Applied Physics, 2012, 111, 07D303.	1.1	23

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37	Signatures of the Magnetic Entropy in the Thermopower Signals in Nanoribbons of the Magnetic Weyl Semimetal $\text{Co}_3\text{Sn}_2\text{S}_2$. Nano Letters, 2020, 20, 300-305.	4.5	23
38	Influence of chemical and magnetic interface properties of Co-Fe-B/MgO/Co-Fe-B tunnel junctions on the annealing temperature dependence of the magnetoresistance. Journal of Applied Physics, 2007, 102, 053907.	1.1	22
39	Magnetoresistance and anomalous Hall effect in micro-ribbons of the magnetic Weyl semimetal $\text{Co}_3\text{Sn}_2\text{S}_2$. Applied Physics Letters, 2019, 114, .	1.5	22
40	2D Transition Metal Dichalcogenide Thin Films Obtained by Chemical Gas Phase Deposition Techniques. Advanced Materials Interfaces, 2019, 6, 1800688.	1.9	21
41	Aluminum oxidation by a remote electron cyclotron resonance plasma in magnetic tunnel junctions. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 2003, 21, 2120.	1.6	20
42	Sign change in the tunnel magnetoresistance of $\text{Fe}_3\text{O}_4/\text{MgO}/\text{Co-Fe-B}$ magnetic tunnel junctions depending on the annealing temperature and the interface treatment. AIP Advances, 2015, 5, 047103.	0.6	20
43	Temperature and bias voltage dependence of Co/Pd multilayer-based magnetic tunnel junctions with perpendicular magnetic anisotropy. Journal of Magnetism and Magnetic Materials, 2011, 323, 198-201.	1.0	18
44	Two-Step Magnetization Reversal FORC Fingerprint of Coupled Bi-Segmented Ni/Co Magnetic Nanowire Arrays. Nanomaterials, 2018, 8, 548.	1.9	18
45	Nonreciprocity of spin waves in magnetic nanotubes with helical equilibrium magnetization. Applied Physics Letters, 2021, 118, .	1.5	18
46	Low B2 crystallization temperature and high tunnel magnetoresistance in magnetic tunnel junctions. Journal of Magnetism and Magnetic Materials, 2010, 322, 996-998.	1.0	17
47	Tunnel magneto-Seebeck effect. Journal Physics D: Applied Physics, 2019, 52, 133001.	1.3	17
48	On/off switching of bit readout in bias-enhanced tunnel magneto-Seebeck effect. Scientific Reports, 2015, 5, 8945.	1.6	16
49	Enhancement of thermovoltage and tunnel magneto-Seebeck effect in CoFeB-based magnetic tunnel junctions by variation of the MgAl_2O_3 and MgO barrier thickness. Physical Review B, 2017, 96, .	1.1	16
50	Direct imaging of the structural change generated by dielectric breakdown in MgO based magnetic tunnel junctions. Applied Physics Letters, 2008, 93, 152508.	1.5	15
51	Spin-Transfer Torque Switching at Ultra Low Current Densities. Materials Transactions, 2015, 56, 1323-1326.	0.4	15
52	Electronic and magnetic structure of epitaxial Fe_3O_4 grown on $\text{MgO}(001)$ and Nb-doped $\text{MgO}(001)$. Physical Review B, 2016, 94, .	1.1	15
53	The current potential of Co_2MnSi Heusler alloy electrodes in magnetic tunnel junctions. Physica Status Solidi A, 2004, 201, 3271-3279.	1.7	14
54	Tunneling spectroscopy and magnon excitation in $\text{Co}_2\text{FeAl}/\text{MgO}/\text{CoFe}$ magnetic tunnel junctions. Applied Physics Letters, 2009, 95, .	1.5	14

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55	Co/Pt multilayer-based magnetic tunnel junctions with perpendicular magnetic anisotropy. Journal of Applied Physics, 2012, 111, 07C703.	1.1	14
56	All Electrical Access to Topological Transport Features in $Mn_{1.8}PtSn$ Films. Nano Letters, 2019, 19, 2366-2370.	4.5	14
57	X-ray absorption and magnetic circular dichroism studies of annealed magnetic tunnel junctions. Journal of Applied Physics, 2005, 97, 123711.	1.1	13
58	Spin-electronic devices with half-metallic Heusler alloys. Journal of Alloys and Compounds, 2006, 423, 148-152.	2.8	13
59	Spin Hall magnetoresistance in heterostructures consisting of noncrystalline paramagnetic YIG and Pt. Applied Physics Letters, 2019, 114, .	1.5	13
60	Anomalous Nernst effect and three-dimensional temperature gradients in magnetic tunnel junctions. Communications Physics, 2018, 1, .	2.0	12
61	Direct measurement of the spin polarization of Co_2FeAl in combination with MgO tunnel barriers. Journal of Applied Physics, 2010, 107, .	1.1	11
62	Thermal conductivity of thin insulating films determined by tunnel magneto-Seebeck effect measurements and finite-element modeling. Journal Physics D: Applied Physics, 2018, 51, 224006.	1.3	11
63	Frequency linewidth and decay length of spin waves in curved magnetic membranes. Physical Review B, 2018, 98, .	1.1	11
64	Spinelectronics and its applications. Physica Status Solidi (B): Basic Research, 2003, 236, 289-302.	0.7	10
65	Magnetic microstructure and magnetotransport in Co_2FeAl Heusler compound thin films. Applied Physics Letters, 2011, 98, 042501.	1.5	9
66	Evidence for band structure effects in the magnetoresistance of Co-based Heusler compounds. Journal of Applied Physics, 2008, 103, 023903.	1.1	8
67	Temperature and bias-voltage dependence of atomic-layer-deposited HfO_2 -based magnetic tunnel junctions. Applied Physics Letters, 2014, 105, .	1.5	8
68	Spin-hall-active platinum thin films grown via atomic layer deposition. Applied Physics Letters, 2018, 112, .	1.5	8
69	Signatures of a Charge Density Wave Phase and the Chiral Anomaly in the Fermionic Material Cobalt Monosilicide $CoSi$. Advanced Electronic Materials, 2020, 6, 1900857.	2.6	8
70	New materials and applications for magnetic tunnel junctions. Physica Status Solidi A, 2004, 201, 1628-1634.	1.7	7
71	Preparation of Heusler thin films: The quaternary alloy $Co_2Fe_{0.5}Mn_{0.5}Si$. Physica Status Solidi (A) Applications and Materials Science, 2008, 205, 2298-2301.	0.8	7
72	Structural and tunneling properties of magnetic tunnel junctions with Al_2O_3 and MgO barrier. Vacuum, 2008, 82, 1057-1061.	1.6	7

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73	Magnon excitation and temperature dependent transport properties in magnetic tunnel junctions with Heusler compound electrodes. Journal of Applied Physics, 2012, 111, .	1.1	7
74	Temperature gradient-induced magnetization reversal of single ferromagnetic nanowires. Journal Physics D: Applied Physics, 2017, 50, 494007.	1.3	7
75	Element-specific study of the temperature dependent magnetization of Co ²⁺ Mn ²⁺ Sb thin films. Journal of Applied Physics, 2009, 105, 053906.	1.1	6
76	Improved reliability of magnetic field programmable gate arrays through the use of memristive tunnel junctions. Journal of Applied Physics, 2011, 110, 096105.	1.1	6
77	Pumping laser excited spins through MgO barriers. Journal Physics D: Applied Physics, 2017, 50, 144003.	1.3	6
78	Photocurrent measurements in topological insulator Bi ₂ Se ₃ nanowires. Applied Physics Letters, 2020, 116, .	1.5	6
79	Atomic layer deposition of yttrium iron garnet thin films. Physical Review Materials, 2022, 6, .	0.9	6
80	Long-range order on the atomic scale induced at CoFeB/MgO interfaces. Journal of Applied Physics, 2009, 105, 073701.	1.1	5
81	X-Ray Absorption and Magnetic Circular Dichroism Studies of Co ₂ FeAl in Magnetic Tunnel Junctions. IEEE Transactions on Magnetics, 2010, 46, 1925-1928.	1.2	5
82	Spin-polarized tunneling in MgO-based tunnel junctions with superconducting electrodes. New Journal of Physics, 2012, 14, 033023.	1.2	5
83	Magneto-thermoelectric characterization of a HfTe ₅ micro-ribbon. Applied Physics Letters, 2019, 115, .	1.5	5
84	Unidirectional anisotropy in MnIr/CoFe/Al ₂ O ₃ /NiFe TMR multilayer systems. Physica Status Solidi A, 2003, 199, 284-288.	1.7	4
85	Half-metallic {Co ₂ MnSi/Co ₂ FeSi} multilayered Heusler electrodes in magnetic tunnel junctions. Journal of Magnetism and Magnetic Materials, 2007, 310, 2009-2011.	1.0	4
86	Tunnel magnetoresistance in alumina, magnesia and composite tunnel barrier magnetic tunnel junctions. Journal of Magnetism and Magnetic Materials, 2011, 323, 1525-1528.	1.0	4
87	Fast Fourier transform and multi-Gaussian fitting of XRR data to determine the thickness of ALD grown thin films within the initial growth regime. Applied Physics Letters, 2020, 117, 213106.	1.5	4
88	Anisotropic magnetothermal transport in $\text{Co}_{1-x}\text{Mn}_x\text{Sb}$ thin films. Physical Review B, 2021, 104, .	1.2	4
89	Technical feasibility study for production of tailored multielectrode arrays and patterning of arranged neuronal networks. PLoS ONE, 2018, 13, e0192647.	1.1	4
90	The impact of metallic contacts on spin-polarized photocurrents in topological insulator Bi ₂ Se ₃ nanowires. Applied Physics Letters, 2020, 117, .	1.5	4

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91	Chemical and Magnetic Interface Properties of Tunnel Junctions With $\text{Co}_{20}\text{MnSi}/\text{Co}_{20}\text{FeSi}$ Multilayer Electrode Showing Large Tunneling Magnetoresistance. IEEE Transactions on Magnetics, 2007, 43, 2806-2808.	1.2	3
92	Dielectric breakdown and inelastic electron tunneling spectroscopy of top and bottom pinned $\text{Co}/\text{Fe}/\text{B}/\text{MgO}/\text{Co}/\text{Fe}/\text{B}$ magnetic tunnel junctions. Journal of Applied Physics, 2009, 105, .	1.1	3
93	Structural and magnetic properties of $\text{Co}/\text{Mn}/\text{Sb}$ thin films. Journal of Applied Physics, 2010, 107, 063901.	1.1	2
94	Fabrication of Superconducting MgB_2 Thin Films by Magnetron co-Sputtering on (001) MgO Substrates. Journal of Superconductivity and Novel Magnetism, 2013, 26, 1879-1882.	0.8	2
95	Elektronische Nervenzellen. Physik in Unserer Zeit, 2014, 45, 21-25.	0.0	2
96	Nonlocal magnon-based transport in yttrium-iron-garnet/platinum heterostructures at high temperatures. Physical Review B, 2021, 103, .	1.1	2
97	Temperature and bias voltage dependence of $\text{CoFe}/\text{AlO}_x/\text{Py}/\text{AlO}_x/\text{CoFe}$ double barrier junctions. , 0, , .		1
98	Temperature and bias voltage dependence of $\text{Co-Fe-AlO}_x/\text{Py-AlO}_x/\text{Co-Fe}$ double-barrier junctions. IEEE Transactions on Magnetics, 2003, 39, 2821-2823.	1.2	1
99	Heiße Elektronik. Physik in Unserer Zeit, 2012, 43, 288-295.	0.0	1
100	Memristive devices. Semiconductor Science and Technology, 2014, 29, 100301.	1.0	1
101	Preparation of Ta-O-Based Tunnel Junctions to Obtain Artificial Synapses Based on Memristive Switching. Methods in Molecular Biology, 2015, 1260, 261-267.	0.4	1
102	Surface Modification of V/VI Semiconductors Using Exchange Reactions within ALD Half-Cycles. Advanced Materials Interfaces, 2018, 5, 1701155.	1.9	1
103	Bio-inspired Neural Networks. , 2014, , 151-172.		1
104	Transport measurements on lateral $\text{MgB}_2/\text{Fe}/\text{MgB}_2$ junctions. Journal of Applied Physics, 2012, 111, 07E112.	1.1	0
105	Magnetic anisotropy of thin sputtered MgB_2 films on MgO substrates in high magnetic fields. AIP Advances, 2014, 4, 037115.	0.6	0
106	Rapid thermal annealing of Sb_2Te_3 thin films grown via atomic layer deposition. Thin Solid Films, 2020, 700, 137922.	0.8	0
107	Stability of Magnetic Tunnel Junctions. Lecture Notes in Physics, 2002, , 91-110.	0.3	0
108	Impact of Geometry and Material Stacking on the Properties of Magnetic Tunneling Junctions. , 2004, , 57-70.		0

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109	Magnetic Tunneling Junctions " Materials, Geometry and Applications. Springer Series in Materials Science, 2007, , 147-165.	0.4	0
110	Bio-inspired Neural Networks. , 2019, , 595-617.		0