Markus G MÃ¼nzenberg

List of Publications by Year
in descending order

119 papers	6,335 citations	126907 33 h-index	66911 78 g-index
124 all docs	124 docs citations	124 times ranked	6041 citing authors

#	Article	IF	Citations
1	The building blocks of magnonics. Physics Reports, 2011, 507, 107-136.	25.6	750
2	Efficient metallic spintronic emitters of ultrabroadband terahertz radiation. Nature Photonics, 2016, 10, 483-488.	31.4	605
3	Terahertz spin current pulses controlled by magnetic heterostructures. Nature Nanotechnology, 2013, 8, 256-260.	31.5	476
4	Interface-engineered templates for molecular spin memory devices. Nature, 2013, 493, 509-513.	27.8	401
5	The 2021 Magnonics Roadmap. Journal of Physics Condensed Matter, 2021, 33, 413001.	1.8	287
6	Perspective: Ultrafast magnetism and THz spintronics. Journal of Applied Physics, 2016, 120, .	2.5	267
7	Seebeck effect in magnetic tunnel junctions. Nature Materials, 2011, 10, 742-746.	27.5	260
8	Spin polarization in half-metals probed by femtosecond spin excitation. Nature Materials, 2009, 8, 56-61.	27.5	223
9	Light-wave dynamic control of magnetism. Nature, 2019, 571, 240-244.	27.8	195
10	Ultrafast photocurrents at the surface of the three-dimensional topological insulator Bi2Se3. Nature Communications, 2016, 7, 13259.	12.8	162
11	Intrinsic and non-local Gilbert damping in polycrystalline nickel studied by Tiâ€‰:â€‰sapphire laser fs spectroscopy. Journal Physics D: Applied Physics, 2008, 41, 164016.	2.8	148
12	Evidence for thermal mechanisms in laser-induced femtosecond spin dynamics. Physical Review B, 2010, 81, .	3.2	139
13	Femtosecond formation dynamics of the spin Seebeck effect revealed by terahertz spectroscopy. Nature Communications, 2018, 9, 2899.	12.8	131
14	Tunneling path toward spintronics. Reports on Progress in Physics, 2011, 74, 036501.	20.1	115
15	Resolving the role of femtosecond heated electrons in ultrafast spin dynamics. Scientific Reports, 2014, 4, 3980.	3.3	100
16	Disturbance of Tunneling Coherence by Oxygen Vacancy in Epitaxial<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>Fe</mml:mi><mml:mo>/</mml:mo><mml:mi>MgO</mml:mi><mml:mo>/</mml:mo><mml:mi>Fe</mml:mi><mml:mi> Tunnel Junctions. Physical Review Letters, 2008, 100, 246803.	7.8	96
17	Superconducting Spin Switch with Infinite Magnetoresistance Induced by an Internal Exchange Field. Physical Review Letters, 2013, 110, 097001.	7.8	96
18	Magnetisation switching of FePt nanoparticle recording medium by femtosecond laser pulses. Scientific Reports, 2017, 7, 4114.	3.3	94

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19	Magnonic spin-wave modes in CoFeB antidot lattices. Applied Physics Letters, 2010, 97, .	3.3	79
20	Terahertz spectroscopy for all-optical spintronic characterization of the spin-Hall-effect metals Pt, W and Cu₈₀Ir₂₀. Journal Physics D: Applied Physics, 2018, 51, 364003.	2.8	78
21	Ultrafast magneto-optical response of iron thin films. Physical Review B, 2002, 65, .	3.2	76
22	Highly crystallized as-grown smooth and superconducting MgB2 films by molecular-beam epitaxy. Applied Physics Letters, 2002, 81, 4982-4984.	3.3	72
23	Terahertz Spin Currents and Inverse Spin Hall Effect in Thin-Film Heterostructures Containing Complex Magnetic Compounds. Spin, 2017, 07, 1740010.	1.3	65
24	Energy Equilibration Processes of Electrons, Magnons, and Phonons at the Femtosecond Time Scale. Physical Review Letters, 2008, 101, 237401.	7.8	63
25	Connecting the timescales in picosecond remagnetization experiments. Physical Review B, 2007, 75, .	3.2	55
26	Light-Induced Metastable Magnetic Texture Uncovered byinÂsituLorentz Microscopy. Physical Review Letters, 2017, 118, 097203.	7.8	50
27	Multifunctional gold nanorods for selective plasmonic photothermal therapy in pancreatic cancer cells using ultra-short pulse near-infrared laser irradiation. Nanoscale, 2015, 7, 5328-5337.	5.6	49
28	Epitaxial growth of MgO and Feâˆ•MgOâˆ•Fe magnetic tunnel junctions on (100)-Si by molecular beam epitaxy. Applied Physics Letters, 2008, 93, .	3.3	45
29	Time-resolved measurement of the tunnel magneto-Seebeck effect in a single magnetic tunnel junction. Review of Scientific Instruments, 2013, 84, 063905.	1.3	43
30	Large magneto-Seebeck effect in magnetic tunnel junctions with half-metallic Heusler electrodes. Nature Communications, 2017, 8, 1626.	12.8	43
31	Analysis of the time-resolved magneto-optical Kerr effect for ultrafast magnetization dynamics in ferromagnetic thin films. Journal of Physics Condensed Matter, 2017, 29, 174002.	1.8	40
32	Superconductor-ferromagnet tunneling measurements indicatesp-spin andd-spin currents. Physical Review B, 2004, 70, .	3.2	38
33	Spin-wave population in nickel after femtosecond laser pulse excitation. Physical Review B, 2010, 82, .	3.2	34
34	Intrinsic and nonlocal Gilbert damping parameter in all optical pump-probe experiments. Journal of Applied Physics, 2006, 99, 08F308.	2.5	30
35	PARAMETER SPACE FOR THERMAL SPIN-TRANSFER TORQUE. Spin, 2013, 03, 1350002.	1.3	29
36	Efficiency of ultrafast optically induced spin transfer in Heusler compounds. Physical Review Research, 2020, 2, .	3.6	29

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37	Ion-beam induced magnetic anisotropies in iron films. Nuclear Instruments & Methods in Physics Research B, 1998, 139, 332-337.	1.4	28
38	Insights into Ultrafast Demagnetization in Pseudogap Half-Metals. Physical Review X, 2012, 2, .	8.9	28
39	Spin dynamics triggered by subterahertz magnetic field pulses. Journal of Applied Physics, 2008, 103, 123905.	2.5	27
40	Comparison of the magneto-Peltier and magneto-Seebeck effects in magnetic tunnel junctions. Physical Review B, 2015, 92, .	3.2	27
41	Activation of additional energy dissipation processes in the magnetization dynamics of epitaxial chromium dioxide films. Physical Review B, 2008, 77, .	3.2	26
42	The role of weak interlayer coupling in the spin-reorientation of perpendicular ultrathin Co-Fe-B/MgO-based heterostructures. Applied Physics Letters, 2015, 106, .	3.3	26
43	Comparison of laser-induced and intrinsic tunnel magneto-Seebeck effect in<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi>CoFeB</mml:mi><mml:mo>/</mml:mo><mml:msub><mathvariant="normal">O</mml:mi><mml:mn>4</mml:mn></mml:msub></mml:mrow></mml:math>and CoFeB/MgO magnetic tunnel junctions. Physical Review B, 2016, 93, .	3.2	26
44	Electric breakdown in ultrathin MgO tunnel barrier junctions for spin-transfer torque switching. Applied Physics Letters, 2009, 95, .	3.3	25
45	Measurement of the magneto-optical response of Fe and CrO2epitaxial films by pump-probe spectroscopy: Evidence for spin-charge separation. Physical Review B, 2013, 87, .	3.2	25
46	Ultrafast Demagnetization of Iron Induced by Optical versus Terahertz Pulses. Physical Review X, 2021, 11, .	8.9	25
47	4fand5dmagnetic moments in highly correlated [Ce/La/Fe] and [La/Ce/Fe] multilayers studied by x-ray magnetic circular dichroism. Physical Review B, 1998, 57, 2174-2187.	3.2	24
48	Magnetic texturing of xenon-ion irradiated nickel films. European Physical Journal B, 2004, 42, 193-204.	1.5	23
49	Microscaffolds by Direct Laser Writing for Neurite Guidance Leading to Tailorâ€Made Neuronal Networks. Advanced Biology, 2019, 3, e1800329.	3.0	23
50	Magnetic Textures in Thin Ion-Irradiated Ni and Fe Films. Acta Physica Polonica A, 2001, 100, 751-760.	0.5	22
51	Ion-beam-induced magnetic texturing of thin nickel films. Nuclear Instruments & Methods in Physics Research B, 2000, 161-163, 1016-1021.	1.4	21
52	Comprehensive view on ultrafast dynamics of ferromagnetic films. Physica Status Solidi C: Current Topics in Solid State Physics, 2006, 3, 1347-1358.	0.8	21
53	Analytical expression of the magneto-optical Kerr effect and Brillouin light scattering intensity arising from dynamic magnetization. Journal Physics D: Applied Physics, 2010, 43, 325004.	2.8	20
54	Driving Magnetization Dynamics in an On-Demand Magnonic Crystal via the Magnetoelastic Interactions. Physical Review Applied, 2018, 10, .	3.8	20

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55	Frequencyâ€Independent Terahertz Anomalous Hall Effect in DyCo₅, Co₃₂Fe₆₈, and Gd₂₇Fe₇₃ Thin Films from DC to 40 THz. Advanced Materials, 2021, 33, e2007398.	21.0	20
56	Ferromagnets stirred up. Nature Materials, 2010, 9, 184-185.	27.5	18
57	Elastic and inelastic conductance in Co-Fe-B/MgO/Co-Fe-B magnetic tunnel junctions. Physical Review B, 2010, 82, .	3.2	18
58	A scenario for magnonic spin-wave traps. Scientific Reports, 2015, 5, 12824.	3.3	18
59	Imprinting magnetic structures. Applied Physics Letters, 1998, 72, 2894-2896.	3.3	17
60	Tunnel magneto-Seebeck effect. Journal Physics D: Applied Physics, 2019, 52, 133001.	2.8	17
61	Isolating the Interface Magnetocrystalline Anisotropy Contributions in Magnetic Multilayers. Physical Review Letters, 2003, 90, 117204.	7.8	16
62	On/off switching of bit readout in bias-enhanced tunnel magneto-Seebeck effect. Scientific Reports, 2015, 5, 8945.	3.3	16
63	Coherent ultrafast spin-dynamics probed in three dimensional topological insulators. Scientific Reports, 2015, 5, 15304.	3.3	16
64	Enhancement of thermovoltage and tunnel magneto-Seebeck effect in CoFeB-based magnetic tunnel junctions by variation of the <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:msub><mml:mi mathvariant="bold">MgAl</mml:mi><mml:mn>2</mml:mn></mml:msub><mml:msub><mml:mi mathvariant="bold">O</mml:mi><mml:mn>4</mml:mn></mml:msub></mml:mrow></mml:math> and MgO barrier thickness. Physical Review B, 2017, 96, .	3.2	16
65	Direct imaging of the structural change generated by dielectric breakdown in MgO based magnetic tunnel junctions. Applied Physics Letters, 2008, 93, 152508.	3.3	15
66	Spin-Transfer Torque Switching at Ultra Low Current Densities. Materials Transactions, 2015, 56, 1323-1326.	1.2	15
67	Magnetization dynamics in optically excited nanostructured nickel films. New Journal of Physics, 2008, 10, 123004.	2.9	12
68	3D Micropillars Guide the Mechanobiology of Human Induced Pluripotent Stem Cellâ€Derived Cardiomyocytes. Advanced Healthcare Materials, 2016, 5, 335-341.	7.6	12
69	Anomalous Nernst effect and three-dimensional temperature gradients in magnetic tunnel junctions. Communications Physics, 2018, 1, .	5.3	12
70	Confinement of phonon propagation in laser deposited tungsten/polycarbonate multilayers. New Journal of Physics, 2016, 18, 092002.	2.9	12
71	Giant nonlocal damping by spin-wave emission: Micromagnetic simulations. Physical Review B, 2006, 74, .	3.2	11
72	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.	2.8	11

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73	Chemical and magnetization profile study of Ce in [CeLaCe/Fe] and [LaCeLa/Fe] multilayers by resonant X-ray reflectivity. Physica B: Condensed Matter, 2000, 283, 175-179.	2.7	10
74	Spin-wave modes and band structure of rectangular CoFeB antidot lattices. Journal of Applied Physics, 2012, 112, 083921.	2.5	10
75	Spintronic emitters for super-resolution in THz-spectral imaging. Applied Physics Letters, 2022, 120, .	3.3	10
76	Phonon localization in ultrathin layered structures. Applied Physics A: Materials Science and Processing, 2015, 119, 11-18.	2.3	8
77	Magnetization dynamics in magnonic structures with different geometries: interfaces, notches and waveguides. Journal of Physics Condensed Matter, 2017, 29, 214001.	1.8	8
78	Remagnetization in arrays of ferromagnetic nanostripes with periodic and quasiperiodic order. Physical Review B, 2019, 99, .	3.2	8
79	Ce 5d and Fe 3d magnetic profiles in CeH 2 /Fe multilayers probed by XRMS. Applied Physics A: Materials Science and Processing, 2001, 73, 711-715.	2.3	7
80	Tuning the<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mn>4</mml:mn><mml:mi>f</mml:mi></mml:mrow></mml:math>state occupancy of Ce in highly correlated<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mi mathvariant="normal">Ce</mml:mi><mml:mi mathvariant="normal">Si</mml:mi><mml:mo>â^•</mml:mo><mml:mi mathvariant="normal">Fe</mml:mi></mml:mrow></mml:math>multilayers: An x-ray absorption spectro	3.2	6
81	THz elastic dynamics in finite-size CoFeB-MgO phononic superlattices. Journal of Applied Physics, 2016, 120, 142116.	2.5	6
82	Pumping laser excited spins through MgO barriers. Journal Physics D: Applied Physics, 2017, 50, 144003.	2.8	6
83	Photocurrent measurements in topological insulator Bi2Se3 nanowires. Applied Physics Letters, 2020, 116, .	3.3	6
84	Imprinting artificial magnetic structures (invited). Journal of Applied Physics, 1999, 85, 5873-5876.	2.5	5
85	Imprinted spiral structures as neutron polarizers. Physica B: Condensed Matter, 1999, 267-268, 352-354.	2.7	5
86	Magnetic polarization of the La and Ce5dstates near the interfaces ofFe/LaHxandFe/CeHxmultilayers across the metal-insulator transition in the hydrides: An x-ray magnetic circular dichroism study. Physical Review B, 2003, 67, .	3.2	5
87	Fabrication and characteristics of ferromagnetic single electron transistors. Journal of Magnetism and Magnetic Materials, 2004, 272-276, 1949-1951.	2.3	5
88	Nanofabrication of spin-transfer torque devices by a polymethylmethacrylate mask one step process: Giant magnetoresistance versus single layer devices. Journal of Applied Physics, 2007, 101, 104302.	2.5	5
89	Long-range order on the atomic scale induced at CoFeB/MgO interfaces. Journal of Applied Physics, 2009, 105, 073701.	2.5	5
90	Spin reorientation transition in CoFeB/MgO/CoFeB tunnel junction enabled by ultrafast laser-induced suppression of perpendicular magnetic anisotropy. Nanoscale, 2022, 14, 8153-8162.	5.6	5

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91	Non-collinear spin structures in CeH2/Fe. Physica B: Condensed Matter, 1997, 234-236, 477-479.	2.7	4
92	Element-specific magnetization reversal in Fe/Ce multilayers:. Journal of Magnetism and Magnetic Materials, 2000, 220, 195-204.	2.3	4
93	Tunnel magnetoresistance in alumina, magnesia and composite tunnel barrier magnetic tunnel junctions. Journal of Magnetism and Magnetic Materials, 2011, 323, 1525-1528.	2.3	4
94	The impact of metallic contacts on spin-polarized photocurrents in topological insulator Bi2Se3 nanowires. Applied Physics Letters, 2020, 117, .	3.3	4
95	Magnetic spiral structures in La/Fe multilayers. Journal of Magnetism and Magnetic Materials, 1999, 198-199, 440-442.	2.3	3
96	A novel spin transfer torque effect in Ag₂Co granular films. New Journal of Physics, 2007, 9, 329-329.	2.9	3
97	Taking advantage of nature for a greener nonvolatile memory. Physics Magazine, 0, 3, .	0.1	3
98	High-speed spins. Nature Physics, 2021, 17, 985-986.	16.7	3
99	Comment on â€œIsolating the Interface Magnetocrystalline Anisotropy Contributions in Magnetic Multilayersâ€• Physical Review Letters, 2005, 94, 039701; author reply 039702.	7.8	2
100	Preface to Special Topic: Cutting Edge Physics in Functional Materials. Journal of Applied Physics, 2016, 120, 142001.	2.5	2
101	Spin reorientation transition in Fe/CeH 2 multilayers probed by soft X-ray resonant magnetic scattering. Applied Physics A: Materials Science and Processing, 2001, 73, 693-696.	2.3	1
102	Dhesiet al.Reply:. Physical Review Letters, 2005, 94, .	7.8	1
103	HeiÃŸe Elektronik. Physik in Unserer Zeit, 2012, 43, 288-295.	0.0	1
104	Spin-Current Manipulation of Photo-Induced Magnetization Dynamics in Heavy Metal/Ferromagnet Double Layer-Based Nanostructures. IEEE Transactions on Magnetics, 2017, 53, 1-4.	2.1	1
105	3D Micro Scaffolds for Tailor-Made Three-Dimensional Neural Network Studies. Biophysical Journal, 2018, 114, 672a-673a.	0.5	1
106	Laser-induced changes of nonlinear electronic transport properties in La0.75Ba0.25MnO3and (La0.6Pr0.4)0.67Ca0.33MnO3. Journal of Physics Condensed Matter, 2018, 30, 045701.	1.8	1
107	Ultrafast Spin Precession and Transport Controlled and Probed with Terahertz Radiation. Springer Proceedings in Physics, 2015, , 324-326.	0.2	1
108	Perpendicular magnetic anisotropy in Fe/CeH2 multilayers with reduced pair number. Journal of Magnetism and Magnetic Materials, 1999, 198-199, 351-353.	2.3	0

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109	Element-Specific Magnetization Reversal in Fe/Ce Multilayers. Materials Research Society Symposia Proceedings, 1999, 577, 575.	0.1	0
110	Magnetic interface polarization of the La-5d states in Fe/LaH x multilayers. Applied Physics A: Materials Science and Processing, 2001, 73, 717-721.	2.3	0
111	Ultrafast spin precession and transport controlled and probed with terahertz radiation. Proceedings of SPIE, 2014, , .	0.8	0
112	Stem Cell Mechanobiology: 3D Micropillars Guide the Mechanobiology of Human Induced Pluripotent Stem Cellâ€Derived Cardiomyocytes (Adv. Healthcare Mater. 3/2016). Advanced Healthcare Materials, 2016, 5, 334-334.	7.6	0
113	All-optical magnetization switching of FePt magnetic recording medium. , 2017, , .		0
114	Ultrafast spin dynamics and THz spintronics. , 2017, , .		0
115	Cell Culture Platforms: Microscaffolds by Direct Laser Writing for Neurite Guidance Leading to Tailorâ€Made Neuronal Networks (Adv. Biosys. 5/2019). Advanced Biology, 2019, 3, 1970054.	3.0	0
116	Emission Properties of Structured Spintronic Terahertz Emitters. , 2019, , .		0
117	Spin-Wave Modes in a CoFeB Magnonic Crystal Waveguide. Springer Proceedings in Physics, 2015, , 103-105.	0.2	0
118	Spin-wave and spin-current dynamics in ultrafast demagnetization experiments. Springer Proceedings in Physics, 2015, , 86-88.	0.2	0
119	Ultrafast Charge and Spin Dynamics in Ferromagnets. , 2020, , .		0