

Dieter Engel

List of Publications by Year in descending order

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68
papers

2,126
citations

279798

23
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68
all docs

68
docs citations

68
times ranked

2166
citing authors

#	ARTICLE	IF	CITATIONS
1	Fast current-driven domain walls and small skyrmions in a compensated ferrimagnet. Nature Nanotechnology, 2018, 13, 1154-1160.	31.5	406
2	Field-free deterministic ultrafast creation of magnetic skyrmions by spin-orbit torques. Nature Nanotechnology, 2017, 12, 1040-1044.	31.5	215
3	Local manipulation and reversal of the exchange bias field by ion irradiation in FeNi/FeMn double layers. Physical Review B, 2001, 63, .	3.2	135
4	Suppression of exchange bias by ion irradiation. Applied Physics Letters, 2000, 76, 1057-1059.	3.3	97
5	Observation of fluctuation-mediated picosecond nucleation of a topological phase. Nature Materials, 2021, 20, 30-37.	27.5	68
6	Optical inter-site spin transfer probed by energy and spin-resolved transient absorption spectroscopy. Nature Communications, 2020, 11, 871.	12.8	66
7	Magnetic micropatterning of FeNi/FeMn exchange bias bilayers by ion irradiation. Journal of Applied Physics, 2001, 89, 6606-6608.	2.5	58
8	Asymmetric Magnetization Reversal of Stripe-Patterned Exchange Bias Layer Systems for Controlled Magnetic Particle Transport. Advanced Materials, 2011, 23, 5568-5573.	21.0	57
9	Origin of strong-field-induced low-order harmonic generation in amorphous quartz. Nature Physics, 2020, 16, 1035-1039.	16.7	51
10	Exchange-bias instability in a bilayer with an ion-beam imprinted stripe pattern of ferromagnetic/antiferromagnetic interfaces. Physical Review B, 2006, 73, .	3.2	49
11	On the origin of ion bombardment induced exchange bias modifications in polycrystalline layers. Journal Physics D: Applied Physics, 2005, 38, 801-806.	2.8	44
12	Fundamentals for magnetic patterning by ion bombardment of exchange bias layer systems. Physica Status Solidi (B): Basic Research, 2006, 243, 29-36.	1.5	40
13	Tuning exchange bias and coercive fields in ferromagnet/antiferromagnet bilayers with ion irradiation. Journal of Applied Physics, 2002, 91, 6896.	2.5	39
14	Controlled movement of superparamagnetic bead rows for microfluid mixing. Applied Physics Letters, 2012, 100, 153504.	3.3	37
15	In-plane magnetic pattern separation in NiFe/NiO and Co/NiO exchange biased bilayers investigated by magnetic force microscopy. Journal of Magnetism and Magnetic Materials, 2004, 280, 369-376.	2.3	34
16	Domain propagation in He-ion-bombarded magnetic wires with opposite exchange bias. Journal of Applied Physics, 2005, 97, 10K102.	2.5	34
17	Magnetization Reversal of Exchange Bias Double Layers Magnetically Patterned by Ion Irradiation. Physica Status Solidi A, 2002, 189, 439-447.	1.7	32
18	Domain-Wall Movement Control in Co/Au Multilayers by He^+ -Ion-Bombardment-Induced Lateral Coercivity Gradients. Physical Review Letters, 2010, 105, 067202.	7.8	30

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19	Ion irradiation of exchange bias systems for magnetic sensor applications. Applied Physics A: Materials Science and Processing, 2003, 77, 51-56.	2.3	29
20	Exchange anisotropy modification in NiO/NiFe bilayers by ion bombardment. Journal of Magnetism and Magnetic Materials, 2003, 263, 275-281.	2.3	29
21	Colloidal domain lithography for regularly arranged artificial magnetic out-of-plane monodomains in Au/Co/Au layers. Nanotechnology, 2011, 22, 095302.	2.6	29
22	Magneto-Optical Functions at the $\langle \text{mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline">\langle \text{mml:mrow}\langle \text{mml:mn}\rangle 3 \langle \text{mml:mn}\rangle \langle \text{mml:mi}\rangle p \langle \text{mml:mi}\rangle \langle \text{mml:mrow}\rangle \langle \text{mml:math}\rangle \text{Resonances of Fe, Co, and Ni: } \langle i \rangle \text{Ab\textasciitilde} \text{initio} \langle /i \rangle$ Description and Experiment. Physical Review Letters, 2019, 122, 217202.	7.8	27
23	Modification of the exchange bias effect by He ion irradiation. IEEE Transactions on Magnetics, 2000, 36, 2647-2649.	2.1	25
24	Deterministic Generation and Guided Motion of Magnetic Skyrmions by Focused He ⁺ -Ion Irradiation. Nano Letters, 2022, 22, 4028-4035.	9.1	24
25	Influence of ion bombardment on transport properties and exchange bias in magnetic tunnel junctions. Journal of Applied Physics, 2003, 94, 5556-5558.	2.5	23
26	Application concepts for ultrafast laser-induced skyrmion creation and annihilation. Applied Physics Letters, 2021, 118, .	3.3	23
27	Hyper-domains in exchange bias micro-stripe pattern. New Journal of Physics, 2008, 10, 093021.	2.9	22
28	Element Specificity of Transient Extreme Ultraviolet Magnetic Dichroism. Physical Review Letters, 2020, 124, 077203.	7.8	22
29	Lattice dynamics and ultrafast energy flow between electrons, spins, and phonons in a 3d ferromagnet. Physical Review Research, 2021, 3, .	3.6	21
30	Initialization of unidirectional anisotropy in a ferromagnet-antiferromagnet bilayer by keV-He ion bombardment. Journal of Magnetism and Magnetic Materials, 2005, 293, 849-853.	2.3	20
31	Manipulation of magnetic nanoparticles by the strayfield of magnetically patterned ferromagnetic layers. Journal of Applied Physics, 2007, 102, .	2.5	20
32	Magnetic field induced transition from weak to strong ferromagnetic coupling in NiFe•Au•Co•Au multilayers. Applied Physics Letters, 2008, 92, 012511.	3.3	20
33	Postannealing of magnetic tunnel junctions with ion-bombardment-modified exchange bias. Applied Physics Letters, 2005, 86, 152102.	3.3	19
34	Alteration of exchange anisotropy and magnetoresistance in Co/Cu/Co/FeMn spin valves by ion bombardment. Journal of Applied Physics, 2003, 94, 5925-5929.	2.5	18
35	Thermal exchange bias field drift in field cooled Mn ₈₃ Ir ₁₇ /Co ₇₀ Fe ₃₀ thin films after 10 keV He ion bombardment. Journal of Applied Physics, 2011, 109, 023910.	2.5	18
36	Plasma ion source for <i>in situ</i> ion bombardment in a soft x-ray magnetic scattering diffractometer. Review of Scientific Instruments, 2012, 83, 053303.	1.3	18

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37	Distinct spectral response in M -edge magnetic circular dichroism. <i>Physical Review B</i> , 2020, 102, .	3.2	16
38	Transient magnetic gratings on the nanometer scale. <i>Structural Dynamics</i> , 2020, 7, 054501.	2.3	16
39	A tabletop setup for ultrafast helicity-dependent and element-specific absorption spectroscopy and scattering in the extreme ultraviolet spectral range. <i>Review of Scientific Instruments</i> , 2020, 91, 093001.	1.3	15
40	The patterning toolbox FIB-o-mat: Exploiting the full potential of focused helium ions for nanofabrication. <i>Beilstein Journal of Nanotechnology</i> , 2021, 12, 304-318.	2.8	13
41	Single-step fabrication of surface waveguides in fused silica with few-cycle laser pulses. <i>Optics Letters</i> , 2019, 44, 4267.	3.3	13
42	Accelerating double pulse all-optical write/erase cycles in metallic ferrimagnets. <i>Applied Physics Letters</i> , 2022, 120, .	3.3	13
43	Characterization of magnetic force microscopy probe tip remagnetization for measurements in external in-plane magnetic fields. <i>Journal of Applied Physics</i> , 2008, 104, .	2.5	12
44	Intrinsic energy flow in laser-excited $3d$ ferromagnets. <i>Physical Review Research</i> , 2022, 4, .	3.6	11
45	X-ray absorption and magnetic circular dichroism studies of ion-bombarded ferromagnet-antiferromagnet bilayers. <i>Physical Review B</i> , 2004, 70, .	3.2	10
46	Reconfigurable magnetic logic for all basic logic functions produced by ion bombardment induced magnetic patterning. <i>Applied Physics Letters</i> , 2007, 91, 162505.	3.3	10
47	Element-Specific Magnetization Dynamics of Complex Magnetic Systems Probed by Ultrafast Magneto-Optical Spectroscopy. <i>Applied Sciences (Switzerland)</i> , 2020, 10, 7580.	2.5	9
48	All-Optical Switching on the Nanometer Scale Excited and Probed with Femtosecond Extreme Ultraviolet Pulses. <i>Nano Letters</i> , 2022, 22, 4452-4458.	9.1	9
49	Domain structure and magnetoresistance of NiFe/Au/Co/Au multilayers with perpendicular anisotropy. <i>Physica Status Solidi C: Current Topics in Solid State Physics</i> , 2006, 3, 57-60.	0.8	8
50	Ultrafast element- and depth-resolved magnetization dynamics probed by transverse magneto-optical Kerr effect spectroscopy in the soft x-ray range. <i>Physical Review Research</i> , 2022, 4, .	3.6	8
51	Selective Alignment of Molecular Glass Wrinkles by Engineered Magnetic Field Landscapes. <i>Advanced Functional Materials</i> , 2015, 25, 6768-6774.	14.9	7
52	Colloidal domain lithography in multilayers with perpendicular anisotropy: an experimental study and micromagnetic simulations. <i>Nanotechnology</i> , 2012, 23, 475303.	2.6	6
53	Soft X-ray resonant magnetic reflection investigations of FeMn/Co/Cu/Co spin valves modified by He-ion bombardment. <i>Physica B: Condensed Matter</i> , 2004, 345, 185-188.	2.7	5
54	Magnetic and chemical properties of Co_2MnSi thin films compared to the $\text{Co}_2\text{MnSi}/\text{Al-O}$ interface. <i>Journal of Applied Physics</i> , 2006, 100, 113903.	2.5	5

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55	Thermal stability of magnetic nanostructures in ion-bombardment-modified exchange-bias systems. <i>Physical Review B</i> , 2006, 73, .	3.2	5
56	Thermal exchange bias field drifts after 10 keV He ion bombardment: Storage temperature dependence and initial number of coupling sites. <i>Journal of Applied Physics</i> , 2011, 110, 113911.	2.5	5
57	Modifications of magnetic anisotropy and magnetization reversal in [Co _{0.4} /Pd _{0.7}] ₅₀ multilayers induced by 10 keV-He ion bombardment. <i>Journal of Applied Physics</i> , 2012, 112, 063901.	2.5	5
58	Three-dimensional characterization of Co/Pd multilayer thin films using resonant soft x-ray scattering. <i>Physical Review B</i> , 2017, 95, .	3.2	4
59	Wide-field magneto-optical microscope to access quantitative magnetization dynamics with femtosecond temporal and sub-micrometer spatial resolution. <i>Journal of Applied Physics</i> , 2021, 130, 083905.	2.5	4
60	High-speed spatial encoding of modulated pump-probe signals with slow area detectors. <i>Measurement Science and Technology</i> , 2021, 32, 025901.	2.6	4
61	Selective Modification of Magnetic Properties of Co ₁ /Au/Co ₂ /Au Multilayers by He Ion Bombardment. <i>Acta Physica Polonica A</i> , 2009, 115, 326-328.	0.5	4
62	Influence of ion bombardment induced patterning of exchange bias in pinned artificial ferrimagnets on the interlayer exchange coupling. <i>Journal of Applied Physics</i> , 2008, 103, 123903.	2.5	3
63	Switchable resonant x-ray Bragg scattering on a magnetic grating patterned by ion bombardment. <i>Journal of Applied Physics</i> , 2006, 100, 063903.	2.5	2
64	Polarized neutron reflectometry study on a magnetic film with an ion beam imprinted stripe pattern. <i>Superlattices and Microstructures</i> , 2007, 41, 104-108.	3.1	2
65	CXS: Coherent X-ray scattering at the UE49-SGM at BESSY II. <i>Journal of Large-scale Research Facilities JLSRF</i> , 0, 2, A56.	0.0	2
66	Magnetic Tailoring of Domains in NiFe/Au/Co/Au Multilayers by He Ion Bombardment through Nanospheres. <i>Acta Physica Polonica A</i> , 2009, 115, 348-351.	0.5	1
67	Domains Stimulated Magnetostatic Coupling in NiFe/Au/Co/Au Multilayers Investigated by Complementary Methods. <i>Acta Physica Polonica A</i> , 2009, 115, 345-347.	0.5	0
68	Hard and Soft X-Ray Reflectivity Studies of (NiFe/Au/Co/Au) ₁₀ Magnetic Multilayers. <i>Acta Physica Polonica A</i> , 2009, 115, 366-368.	0.5	0