

# Volker Neu

## List of Publications by Year in descending order

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71  
papers

1,607  
citations

279798

23  
h-index

330143

37  
g-index

73  
all docs

73  
docs citations

73  
times ranked

1717  
citing authors

#	ARTICLE	IF	CITATIONS
1	Frontiers of magnetic force microscopy. Journal of Applied Physics, 2019, 125, .	2.5	156
2	Soft x-ray ptychography studies of nanoscale magnetic and structural correlations in thin SmCo <sub>5</sub> films. Applied Physics Letters, 2016, 108, .	3.3	75
3	Direct writing of room temperature and zero field skyrmion lattices by a scanning local magnetic field. Applied Physics Letters, 2018, 112, .	3.3	68
4	Largely enhanced energy density in epitaxial SmCo <sub>5</sub> /Fe/SmCo <sub>5</sub> exchange spring trilayers. Journal of Applied Physics, 2011, 109, .	2.5	63
5	Domain structure of epitaxial Co films with perpendicular anisotropy. Physical Review B, 2009, 79, .	3.2	58
6	Magnetic vortex observation in FeCo nanowires by quantitative magnetic force microscopy. Applied Physics Letters, 2014, 105, .	3.3	54
7	Sputtered SmCo <sub>5</sub> films: Microstructure and magnetic properties. Journal of Applied Physics, 1999, 86, 7006-7009.	2.5	52
8	Growth, microstructure, and magnetic properties of highly textured and highly coercive Nd-Fe-B films. Physical Review B, 2004, 70, .	3.2	52
9	Mechanism of coercivity in epitaxial SmCo <sub>5</sub> thin films. Physical Review B, 2008, 77, .	3.2	50
10	Epitaxial SmCo <sub>5</sub> thin films with perpendicular anisotropy. Applied Physics Letters, 2009, 94, .	3.3	43
11	<i>In situ</i> magnetic force microscope studies of magnetization reversal of interaction domains in hot deformed Nd-Fe-B magnets. Journal of Applied Physics, 2012, 111, .	2.5	41
12	Intrinsic and extrinsic properties of epitaxial Nd <sub>2</sub> Fe <sub>14</sub> B films. Applied Physics Letters, 2003, 82, 3710-3712.	3.3	39
13	Growth of epitaxial SmCo <sub>5</sub> films on Cr <sup>2+</sup> MgO(100). Applied Physics Letters, 2005, 87, 072505.	3.3	39
14	Evolution of stripe and bubble domains in antiferromagnetically coupled SmCo <sub>5</sub> /Fe/SmCo <sub>5</sub> exchange spring trilayers. Physical Review B, 2009, 79, .	3.2	37
15	A new look on the two-dimensional Ising model: thermal artificial spins. New Journal of Physics, 2016, 18, 023008.	2.9	37
16	Two-phase high-performance Nd <sub>2</sub> Fe <sub>14</sub> B powders prepared by mechanical milling. Journal of Applied Physics, 2001, 90, 1540-1544.	2.5	35
17	Magnetic films on nanoporated templates: a route towards percolated perpendicular media. Nanotechnology, 2010, 21, 495701.	2.6	35
18	Effect of rare earth content on microstructure and magnetic properties of SmCo and NdFeB thin films. Journal of Applied Physics, 2002, 91, 8180.	2.5	33

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19	Fully epitaxial, exchange coupled SmCo <sub>5</sub> /Fe/SmCo <sub>5</sub> trilayers. Journal Physics D: Applied Physics, 2006, 39, 5116-5120.	2.8	29
20	Monopolelike probes for quantitative magnetic force microscopy: Calibration and application. Applied Physics Letters, 2010, 97, .	3.3	29
21	Pulsed laser deposited epitaxial Sm <sup>2+</sup> Co thin films with uniaxial magnetic texture. Journal of Applied Physics, 2006, 99, 08E917.	2.5	28
22	Relevance of pinning, nucleation, and interaction in nanograined epitaxial hard magnetic $\text{SmCo}_5$ thin films. Physical Review B, 2009, 79, .	3.2	27
23	Characterization and modeling of the demagnetization processes in exchange-coupled SmCo <sub>5</sub> /Fe/SmCo <sub>5</sub> trilayers. Physical Review B, 2010, 81, .	3.2	27
24	Epitaxial growth of highly coercive Sm <sup>2+</sup> Co thin films using pulsed laser deposition. Journal of Applied Physics, 2005, 97, 093902.	2.5	24
25	Epitaxial hard magnetic SmCo <sub>5</sub> MFM tips – a new approach to advanced magnetic force microscopy imaging. Nanoscale, 2018, 10, 16881-16886.	5.6	23
26	Quantitative Magnetic Force Microscopy Study of the Diameter Evolution of Bubble Domains in a $\text{Co/Pd}_{80}$ Multilayer. IEEE Transactions on Magnetics, 2011, 47, 2352-2355.	2.1	21
27	Hard magnetic SmCo thin films prepared by pulsed laser deposition. Journal of Magnetism and Magnetic Materials, 2002, 242-245, 1290-1293.	2.3	18
28	Quantitative assessment of pinning forces and magnetic penetration depth in NbN thin films from complementary magnetic force microscopy and transport measurements. Physical Review B, 2011, 83, .	3.2	18
29	Modelling of the enhanced remanence of nanocrystalline, exchange-coupled hard magnetic grains. Journal of Magnetism and Magnetic Materials, 1998, 189, 391-396.	2.3	17
30	Theoretical analysis of magnetic force microscopy contrast in multidomain states of magnetic superlattices with perpendicular anisotropy. Journal of Applied Physics, 2008, 103, 043907.	2.5	17
31	Bidirectional quantitative force gradient microscopy. New Journal of Physics, 2015, 17, 013014.	2.9	17
32	Calibration of multi-layered probes with low/high magnetic moments. Scientific Reports, 2017, 7, 7224.	3.3	17
33	Determination of tip transfer function for quantitative MFM using frequency domain filtering and least squares method. Scientific Reports, 2019, 9, 3880.	3.3	16
34	Probing the energy barriers and magnetization reversal processes of nanoporated membrane based percolated media. Nanotechnology, 2013, 24, 145702.	2.6	15
35	Comparison and Validation of Different Magnetic Force Microscopy Calibration Schemes. Small, 2020, 16, e1906144.	10.0	15
36	Microstructure and coercivity mechanism of highly textured Nb-Fe-B films. IEEE Transactions on Magnetics, 2003, 39, 2726-2728.	2.1	14

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37	Uncertainty Analysis of Stray Field Measurements by Quantitative Magnetic Force Microscopy. IEEE Transactions on Instrumentation and Measurement, 2020, , 1-1.	4.7	13
38	Round robin comparison on quantitative nanometer scale magnetic field measurements by magnetic force microscopy. Journal of Magnetism and Magnetic Materials, 2020, 511, 166947.	2.3	13
39	Time-dependent magnetization in epitaxial hard magnetic thin films. Journal Physics D: Applied Physics, 2012, 45, 035002.	2.8	12
40	Effect of composition on phase formation, microstructure and magnetic properties of Nd <sub>1-x</sub> Fe <sub>x</sub> B thin films. Journal of Magnetism and Magnetic Materials, 2006, 302, 252-258.	2.3	11
41	Magnetization processes and spin reorientation in epitaxial NdCo <sub>5</sub> ±x thin films. Journal of Applied Physics, 2009, 106, 073915.	2.5	11
42	Dynamic coercivity and thermal stability of epitaxial exchange spring trilayers. Journal of Magnetism and Magnetic Materials, 2010, 322, 1613-1616.	2.3	11
43	Magnetic charge distribution and stray field landscape of asymmetric n <sup>+</sup> Si walls in a magnetically patterned exchange bias layer system. Journal Physics D: Applied Physics, 2017, 50, 495006.	2.8	11
44	Magnetic and microstructural properties of hard magnetic NdFeB films prepared on a Ta buffer by pulsed laser deposition. IEEE Transactions on Magnetics, 2002, 38, 2805-2807.	2.1	10
45	Corrosion of highly coercive, highly textured Nd-Fe-B films. IEEE Transactions on Magnetics, 2003, 39, 2950-2952.	2.1	10
46	Metastable, epitaxial PrCo <sub>7</sub> films with high energy product. Applied Physics Letters, 2006, 89, 142512.	3.3	10
47	Domain Structure and Magnetic Properties of Epitaxial Rare Earth-Transition Metal Thin Films. Journal of Iron and Steel Research International, 2006, 13, 102-111.	2.8	9
48	V-Shaped Domain Wall Probes for Calibrated Magnetic Force Microscopy. IEEE Transactions on Magnetics, 2017, 53, 1-5.	2.1	9
49	In-situ magnetic force microscopy analysis of magnetization and demagnetization behavior in Al <sub>3+</sub> substituted Sr-hexaferrite. Acta Materialia, 2018, 146, 85-96.	7.9	9
50	A local magnetization study of epitaxial Nd <sub>1-x</sub> Fe <sub>x</sub> B films by magnetic force microscopy. Journal of Magnetism and Magnetic Materials, 2005, 290-291, 1263-1266.	2.3	8
51	Phase formation, texture, and magnetic properties of epitaxial Pr <sub>1-x</sub> Co films grown on MgO(100). Journal of Applied Physics, 2006, 100, 043905.	2.5	8
52	Switching behaviour of patterned SmCo <sub>5</sub> thin films investigated by magnetic force microscopy. Journal of Magnetism and Magnetic Materials, 2007, 310, 2210-2212.	2.3	8
53	Stimulated emission and absorption of photons in magnetic point contacts. New Journal of Physics, 2012, 14, 093021.	2.9	8
54	Magnetically and thermally induced switching processes in hard magnets. Journal of Applied Physics, 2012, 112, .	2.5	8

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55	Roughness-induced domain structure in perpendicular Co/Ni multilayers. Journal of Magnetism and Magnetic Materials, 2017, 441, 283-289.	2.3	8
56	Metrological large range magnetic force microscopy. Review of Scientific Instruments, 2018, 89, 093703.	1.3	8
57	Grain size dependence of remanence enhancement and coercivity in nanocrystalline Nd-Fe-B-Powders. Scripta Materialia, 1999, 12, 769-774.	0.5	7
58	Probing the anisotropy constants of SmCo <sub>5</sub> and PrCo <sub>5</sub> by Hall resistance measurements in pulsed high magnetic fields up to 47T. Journal of Magnetism and Magnetic Materials, 2012, 324, 1711-1714.	2.3	7
59	An extraordinary chiral exchange-bias phenomenon: engineering the sign of the bias field in orthogonal bilayers by a magnetically switchable response mechanism. Nanoscale, 2020, 12, 1155-1163.	5.6	7
60	Temperature Dependence of the Texture of Sm-Co Thin Films. Solid State Phenomena, 2005, 105, 409-414.	0.3	6
61	The temperature dependent anisotropy constants of epitaxially grown PrCo <sub>5+x</sub> . Journal of Applied Physics, 2010, 108, 073912.	2.5	6
62	Field- and time-dependent, local and global magnetization behaviour of out-of-plane textured SmCo <sub>5</sub> thin films. Journal Physics D: Applied Physics, 2012, 45, 175001.	2.8	6
63	Single-vortex magnetization distribution and its reversal behaviour in Co/Pt nanotubes. Acta Materialia, 2014, 81, 469-475.	7.9	6
64	Quantum calibrated magnetic force microscopy. Physical Review B, 2021, 104, .	3.2	6
65	Tuning functional properties by plastic deformation. New Journal of Physics, 2009, 11, 083013.	2.9	5
66	Coercivity mechanism in hard magnetic SmCo <sub>5</sub> /PrCo <sub>5</sub> bilayers. Journal Physics D: Applied Physics, 2014, 47, 215001.	2.8	5
67	Size-Specific Magnetic Configurations in Electrodeposited Epitaxial Iron Nanocuboids: From Landau Pattern to Vortex and Single Domain States. Nano Letters, 2022, 22, 4006-4012.	9.1	5
68	Modal Frustration and Periodicity Breaking in Artificial Spin Ice. Small, 2020, 16, 2003141.	10.0	3
69	Creating Ferroic Micropatterns through Geometrical Transformation. Nano Letters, 2021, 21, 9889-9895.	9.1	3
70	Imaging the Magnetization Processes in Epitaxial Exchange Coupled SmCo <sub>5</sub> /Fe/SmCo <sub>5</sub> Trilayers. IEEE Transactions on Magnetics, 2012, 48, 3644-3647.	2.1	1
71	High remanence, epitaxial SmCo <sub>5</sub> thin films. , 2005, , .		0