Hans Fangohr

List of Publications by Year
in descending order

Source: https://exaly.com/author-pdf/236515/publications.pdf

Version: 2024-02-01

149 papers	3,960 citations	109321 35 h-index	144013 57 g-index
152 all docs	152 docs citations	152 times ranked	4156 citing authors

#	Article	IF	Citations
1	Skyrmion-skyrmion and skyrmion-edge repulsions in skyrmion-based racetrack memory. Scientific Reports, 2015, 5, 7643.	3.3	360
2	A Systematic Approach to Multiphysics Extensions of Finite-Element-Based Micromagnetic Simulations: Nmag. IEEE Transactions on Magnetics, 2007, 43, 2896-2898.	2.1	247
3	Ground state search, hysteretic behaviour and reversal mechanism of skyrmionic textures in confined helimagnetic nanostructures. Scientific Reports, 2015, 5, 17137.	3.3	165
4	Megahertz serial crystallography. Nature Communications, 2018, 9, 4025.	12.8	147
5	Thermal stability and topological protection of skyrmions in nanotracks. Scientific Reports, 2017, 7, 4060.	3.3	116
6	Real-space imaging of confined magnetic skyrmion tubes. Nature Communications, 2020, 11, 1726.	12.8	103
7	Joule heating in nanowires. Physical Review B, 2011, 84, .	3.2	101
8	Megahertz data collection from protein microcrystals at an X-ray free-electron laser. Nature Communications, 2018, 9, 3487.	12.8	89
9	Driving magnetic skyrmions with microwave fields. Physical Review B, 2015, 92, .	3.2	84
10	Topologically stable magnetization states on a spherical shell: Curvature-stabilized skyrmions. Physical Review B, 2016, 94, .	3.2	81
11	Vortex dynamics in two-dimensional systems at high driving forces. Physical Review B, 2001, 64, .	3.2	75
12	Magnon-Driven Domain-Wall Motion with the Dzyaloshinskii-Moriya Interaction. Physical Review Letters, 2015, 114, 087203.	7.8	74
13	Proposal for a Standard Micromagnetic Problem: Spin Wave Dispersion in a Magnonic Waveguide. IEEE Transactions on Magnetics, 2013, 49, 524-529.	2.1	73
14	Do Images of Biskyrmions Show Typeâ€‖ Bubbles?. Advanced Materials, 2019, 31, e1806598.	21.0	73
15	Symmetry Locking and Commensurate Vortex Domain Formation in Periodic Pinning Arrays. Physical Review Letters, 2003, 90, 237001.	7.8	67
16	Dynamics of skyrmionic states in confined helimagnetic nanostructures. Physical Review B, 2017, 95, .	3.2	61
17	A Comparison of C, MATLAB, and Python as Teaching Languages in Engineering. Lecture Notes in Computer Science, 2004, , 1210-1217.	1.3	53
18	Designing a Spin-Seebeck Diode. Physical Review Letters, 2014, 112, 047203.	7.8	51

#	Article	IF	Citations
19	Effect of magnetization pinning on the spectrum of spin waves in magnonic antidot waveguides. Physical Review B, 2012, 86, .	3.2	48
20	Proposal of a micromagnetic standard problem for ferromagnetic resonance simulations. Journal of Magnetism and Magnetic Materials, 2017, 421, 428-439.	2.3	48
21	3D diffractive imaging of nanoparticle ensembles using an x-ray laser. Optica, 2021, 8, 15.	9.3	48
22	Membrane protein megahertz crystallography at the European XFEL. Nature Communications, 2019, 10, 5021.	12.8	47
23	Sensing magnetic nanoparticles using nano-confined ferromagnetic resonances in a magnonic crystal. Applied Physics Letters, 2015, 106, .	3.3	44
24	Nanoscale magnetic skyrmions and target states in confined geometries. Physical Review B, 2019, 99, .	3.2	44
25	Microwave-induced dynamic switching of magnetic skyrmion cores in nanodots. Applied Physics Letters, 2015, 106, .	3.3	43
26	BioSimGrid: towards a worldwide repository for biomolecular simulations. Organic and Biomolecular Chemistry, 2004, 2, 3219.	2.8	42
27	Using Jupyter for Reproducible Scientific Workflows. Computing in Science and Engineering, 2021, 23, 36-46.	1.2	42
28	Ubermag: Toward More Effective Micromagnetic Workflows. IEEE Transactions on Magnetics, 2022, 58, 1-5.	2.1	42
29	Flat Bands, Indirect Gaps, and Unconventional Spin-Wave Behavior Induced by a Periodic Dzyaloshinskii-Moriya Interaction. Physical Review Letters, 2019, 122, 067204.	7.8	41
30	A new approach to (quasi) periodic boundary conditions in micromagnetics: The macrogeometry. Journal of Applied Physics, 2009, 105, .	2.5	40
31	Absorbing boundary layers for spin wave micromagnetics. Journal of Magnetism and Magnetic Materials, 2018, 450, 34-39.	2.3	39
32	Proposal for a standard problem for micromagnetic simulations including spin-transfer torque. Journal of Applied Physics, 2009, 105, .	2.5	38
33	Fidimag â€“ A Finite Difference Atomistic and Micromagnetic Simulation Package. Journal of Open Research Software, 2018, 6, 22.	5.9	38
34	The stability of buoyant bubbles in the atmospheres of galaxy clusters. Monthly Notices of the Royal Astronomical Society, 2005, 359, 493-503.	4.4	37
35	Skyrmions in thin films with easy-plane magnetocrystalline anisotropy. Applied Physics Letters, 2016, 108, .	3.3	35
36	User interfaces for computational science: A domain specific language for OOMMF embedded in Python. AIP Advances, 2017, 7, .	1.3	35

#	Article	IF	Citations
37	Proposal for a micromagnetic standard problem for materials with Dzyaloshinskiiâ€“Moriya interaction. New Journal of Physics, 2018, 20, 113015.	2.9	35
38	Effect of hole shape on spin-wave band structure in one-dimensional magnonic antidot waveguide. Journal of Applied Physics, 2013, 114, .	2.5	33
39	The effects of thermal conduction on the intracluster medium of the Virgo cluster. Monthly Notices of the Royal Astronomical Society, 2005, 364, 13-28.	4.4	32
40	BioSimGrid: Grid-enabled biomolecular simulation data storage and analysis. Future Generation Computer Systems, 2006, 22, 657-664.	7.5	29
41	Magnetic anisotropy in the cubic Laves REFe2intermetallic compounds. Journal of Physics Condensed Matter, 2006, 18, 459-478.	1.8	29
42	Self-organization of Ce adatoms onAg(111): A kinetic Monte Carlo study. Physical Review B, 2006, 74, .	3.2	28
43	Phenomenological description of the nonlocal magnetization relaxation in magnonics, spintronics, and domain-wall dynamics. Physical Review B, 2015, 92, .	3.2	28
44	Heating rate profiles in galaxy clusters. Monthly Notices of the Royal Astronomical Society, 2006, 367, 1121-1131.	4.4	26
45	Current driven dynamics of domain walls constrained in ferromagnetic nanopillars. Physical Review B, 2008, 78, .	3.2	26
46	Calculation of high-frequency permeability of magnonic metamaterials beyond the macrospin approximation. Physical Review B, 2012, 86, .	3.2	26
47	Skyrmion states in thin confined polygonal nanostructures. Journal of Applied Physics, 2018, 123, .	2.5	26
48	Evaluation of serial crystallographic structure determination within megahertz pulse trains. Structural Dynamics, 2019, 6, 064702.	2.3	26
49	Efficient Methods for Handling Long-Range Forces in Particleâ€“Particle Simulations. Journal of Computational Physics, 2000, 162, 372-384.	3.8	23
50	The Karabo distributed control system. Journal of Synchrotron Radiation, 2019, 26, 1448-1461.	2.4	23
51	Critical transverse forces in weakly pinned driven vortex systems. Physical Review B, 2001, 63, .	3.2	22
52	Micromagnetic simulation studies of ferromagnetic part spheres. Journal of Applied Physics, 2005, 97, 10E305.	2.5	22
53	Vortex matter in layered superconductors without Josephson coupling: Numerical simulations within a mean-field approach. Physical Review B, 2003, 67, .	3.2	21
54	Effect of the long-range adsorbate interactions on the atomic self-assembly on metal surfaces. Surface Science, 2006, 600, 58-61.	1.9	21

#	Article	IF	Citations
55	Oscillatory thickness dependence of the coercive field in magnetic three-dimensional antidot arrays. Applied Physics Letters, 2006, 88, 062511.	3.3	21
56	Hysteresis of nanocylinders with Dzyaloshinskii-Moriya interaction. Applied Physics Letters, 2016, 109, .	3.3	21
57	Enhanced spin transfer torque effect for transverse domain walls in cylindrical nanowires. Physical Review B, 2011, 84, .	3.2	20
58	Electrodeposition and magnetic properties of three-dimensional bulk and shell nickel mesostructures. Thin Solid Films, 2011, 519, 8320-8325.	1.8	20
59	Anharmonic Infrared Spectroscopy through the Fourier Transform of Time Correlation Function Formalism in O<scp>NETEP</scp>. Journal of Chemical Theory and Computation, 2015, 11, 3321-3332.	5.3	20
60	Hierarchical structure formation in layered superconducting systems with multi-scale inter-vortex interactions. Journal of Physics Condensed Matter, 2013, 25, 415702.	1.8	19
61	Grid computing and biomolecular simulation. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2005, 363, 2017-2035.	3.4	18
62	Resonance-Based Detection of Magnetic Nanoparticles and Microbeads Using Nanopatterned Ferromagnets. Physical Review Applied, 2016, 6, .	3.8	18
63	Coercivity of 3D nanoscale magnetic arrays from self-assembly template methods. Journal of Magnetism and Magnetic Materials, 2004, 272-276, 1621-1622.	2.3	17
64	Quality Assurance for Biomolecular Simulations. Journal of Chemical Theory and Computation, 2006, 2, 1477-1481.	5.3	17
65	Phase diagram of vortex matter of type-II superconductors. Physical Review B, 2011, 83, .	3.2	17
66	Compression of boundary element matrix in micromagnetic simulations. Journal of Applied Physics, 2009, 105, .	2.5	16
67	Micromagnetic simulation of ferromagnetic part-spherical particles. Journal of Applied Physics, 2004, 95, 7037-7039.	2.5	15
68	Ordered sub-micron magnetic dot arrays using self-assembly template method. Journal of Magnetism and Magnetic Materials, 2005, 286, 1-4.	2.3	15
69	Micromagnetic simulation of the magnetic exchange spring system DyFe2âˆ•YFe2. Journal of Applied Physics, 2006, 99, 08B904.	2.5	15
70	Morphology of flows and buoyant bubbles in the Virgo cluster. Monthly Notices of the Royal Astronomical Society, 2008, 384, 1377-1386.	4.4	15
71	Micromagnetic studies of three-dimensional pyramidal shell structures. New Journal of Physics, 2010, 12, 113048.	2.9	15
72	Domain wall motion in perpendicular anisotropy nanowires with edge roughness. Journal of Physics Condensed Matter, 2012, 24, 024219.	1.8	15

#	Article	IF	Citations
73	Honeycomb, square, and kagome vortex lattices in superconducting systems with multiscale intervortex interactions. Physical Review B, 2014, 90, .	3.2	15
74	<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mi>Ï€</mml:mi></mml:math> -anisotropy: A nanocarbon route to hard magnetism. Physical Review B, 2020, 101, .	3.2	15
75	Peak Effect in the Critical Current of Type II Superconductors with Strong Magnetic Vortex Pinning. Physical Review Letters, 2008, 101, 147002.	7.8	14
76	Vortex dynamics for low-<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>Î¹</mml:mi></mml:math>type-II superconductors. Physical Review B, 2011, 84, .	3.2	14
77	Ultrahard magnetic nanostructures. Journal of Applied Physics, 2012, 111, 07E345.	2.5	13
78	Stable and manipulable Bloch point. Scientific Reports, 2019, 9, 7959.	3.3	13
79	Magnetic anisotropy terms in [110] MBE-grown REFe2films involving the strain term Îµxy. Journal of Physics Condensed Matter, 2006, 18, 5861-5871.	1.8	12
80	Exchange spring driven spin flop transition in ErFe2âˆ•YFe2 multilayers. Applied Physics Letters, 2006, 89, 132511.	3.3	11
81	Analysis of Magnetoresistance in Arrays of Connected Nano-Rings. IEEE Transactions on Magnetics, 2007, 43, 2881-2883.	2.1	11
82	Role of boundaries in micromagnetic calculations of magnonic spectra of arrays of magnetic nanoelements. Physical Review B, 2013, 87, .	3.2	11
83	Resonant translational, breathing, and twisting modes of transverse magnetic domain walls pinned at notches. Physical Review B, 2016, 93, .	3.2	11
84	Normal modes of carbon nanotubes: similarities and differences with their continuum counterpart. Journal of Physics: Conference Series, 2006, 26, 131-134.	0.4	10
85	Identification of Curie temperature distributions in magnetic particulate systems. Journal Physics D: Applied Physics, 2017, 50, 35LT01.	2.8	10
86	Magnetoresistance in a lithography defined single constrained domain wall spin-valve. Applied Physics Letters, 2010, 97, 262501.	3.3	9
87	Magnonic analog of relativistic Zitterbewegung in an antiferromagnetic spin chain. Physical Review B, 2017, 96, .	3.2	9
88	Micromagnetic modelling of ferromagnetic cones. Journal of Magnetism and Magnetic Materials, 2007, 312, 234-238.	2.3	8
89	Fabrication and simulation of nanostructures for domain wall magnetoresistance studies on nickel. Journal of Magnetism and Magnetic Materials, 2010, 322, 1467-1470.	2.3	8
90	Three-dimensional ferromagnetic architectures with multiple metastable states. Applied Physics Letters, 2011, 98, .	3.3	8

#	Article	IF	Citations
91	Dynamic control of spin wave spectra using spin-polarized currents. Applied Physics Letters, 2014, 105, 112405.	3.3	8
92	Frequency-based nanoparticle sensing over large field ranges using the ferromagnetic resonances of a magnetic nanodisc. Nanotechnology, 2016, 27, 455502.	2.6	8
93	Three hydrolases and a transferase: Comparative analysis of active-site dynamics via the BioSimGrid database. Journal of Molecular Graphics and Modelling, 2007, 25, 896-902.	2.4	7
94	Magnetic switching modes for exchange spring systems with competing anisotropies. Journal of Magnetism and Magnetic Materials, 2009, 321, 2499-2507.	2.3	7
95	A Generic Unifying Ontology for Civil Unmanned Aerial Vehicle Missions. , 2012, , .		7
96	Simulation of the phase diagram of magnetic vortices in two-dimensional superconductors: evidence for vortex chain formation. Journal of Physics Condensed Matter, 2014, 26, 115702.	1.8	7
97	Computing the demagnetizing tensor for finite difference micromagnetic simulations via numerical integration. Journal of Magnetism and Magnetic Materials, 2015, 381, 440-445.	2.3	7
98	Exchange-mediated, nonlinear, out-of-plane magnetic field dependence of the ferromagnetic vortex gyrotropic mode frequency driven by core deformation. Physical Review B, 2016, 94, .	3.2	7
99	Phase diagrams of vortex matter with multi-scale inter-vortex interactions in layered superconductors. Journal of Physics Condensed Matter, 2017, 29, 035602.	1.8	7
100	Oscillatory thickness dependence of the coercive field in three-dimensional anti-dot arrays from self-assembly. Journal of Applied Physics, 2005, 97, 10J701.	2.5	6
101	Apparent negative mobility of vortex matter due to inhomogeneous pinning. Physical Review B, 2007, 75, .	3.2	6
102	Long range ordering in self-assembled Ni arrays on patterned Si. Journal of Magnetism and Magnetic Materials, 2007, 316, e78-e81.	2.3	6
103	Micromagnetic Modelling of the Dynamics of Exchange Springs in Multi-Layer Systems. IEEE Transactions on Magnetics, 2007, 43, 2887-2889.	2.1	6
104	Dynamics of Magnetic Skyrmion Clusters Driven by Spin-Polarized Current With a Spatially Varied Polarization. IEEE Magnetics Letters, 2018, 9, 1-5.	1.1	6
105	Jupyter in Computational Science. Computing in Science and Engineering, 2021, 23, 5-6.	1.2	6
106	Metastable behavior of vortex matter in the electronic transport processes of homogenous superconductors. Physical Review B, 2006, 73, .	3.2	5
107	Parallel execution and scriptability in micromagnetic simulations. Journal of Applied Physics, 2009, 105, 07D527.	2.5	5
108	MHz data collection of a microcrystalline mixture of different jack bean proteins. Scientific Data, 2019, 6, 18.	5.3	5

#	Article	IF	Citations
109	Shock Damage Analysis in Serial Femtosecond Crystallography Data Collected at MHz X-ray Free-Electron Lasers. Crystals, 2020, 10, 1145.	2.2	5
110	Shape-induced anisotropy in antidot arrays from self-assembled templates. IEEE Transactions on Magnetics, 2005, 41, 3598-3600.	2.1	4
111	Self-assembly routes towards creating superconducting and magnetic arrays. Journal of Low Temperature Physics, 2005, 139, 339-349.	1.4	4
112	Spin-polarized currents in exchange spring systems. Journal of Applied Physics, 2008, 103, .	2.5	4
113	Numerical investigation of domain walls in constrained geometries. Journal of Applied Physics, 2008, 103, 07D926.	2.5	4
114	Micromagnetic simulations of magnetoelectric materials. Journal of Applied Physics, 2011, 109, .	2.5	4
115	Multiscale micromagnetism of Co-Pd multilayers. Journal of Applied Physics, 2012, 111, 07C724.	2.5	4
116	Nmag micromagnetic simulation tool. , 2016, , .		4
117	Automatic Feedback Provision in Teaching Computational Science. Lecture Notes in Computer Science, 2020, , 608-621.	1.3	4
118	Self-assembly Routes towards Creating Superconducting and Magnetic Arrays. Journal of Low Temperature Physics, 2005, 139, 339-349.	1.4	3
119	In-plane anisotropy of coercive field in permalloy square ring arrays. Journal of Applied Physics, 2006, 99, 08Q508.	2.5	3
120	Anisotropy of Magnetization Reversal and Magnetoresistance in Square Arrays of Permalloy Nano-Rings. IEEE Transactions on Magnetics, 2006, 42, 2948-2950.	2.1	3
121	Spin-flop transition driven by exchange springs in ErFe2â^•YFe2 multilayers. Journal of Applied Physics, 2007, 101, 09K511.	2.5	3
122	Numerical studies of demagnetizing effects in triangular ring arrays. Journal of Applied Physics, 2008, 103, 07D932.	2.5	3
123	Better Design Decisions Through Operational Modeling During the Early Design Phases. Journal of Aerospace Information Systems, 2014, 11, 195-210.	1.4	3
124	Enhanced spin wave propagation in magnonic rings by bias field modulation. AIP Advances, 2018, 8, 056006.	1.3	3
125	Skyrmion States in Disk Geometry. Physical Review Applied, 2021, 16, .	3.8	3
126	Geometrical multilayers: Coercivity in magnetic 3-D nanostructures. Journal of Magnetism and Magnetic Materials, 2007, 310, e846-e848.	2.3	2

#	Article	IF	Citations
127	Fieldâ€Tuneable Diamagnetism in Ferromagneticâ€“Superconducting Coreâ€“Shell Structures. Advanced Functional Materials, 2011, 21, 1874-1880.	14.9	2
128	Effect of rounded corners on the magnetic properties of pyramidal-shaped shell structures. Journal of Applied Physics, 2012, 111, 07D127.	2.5	2
129	Magneto-Electric Control of Surface Anisotropy and Nucleation Modes in L1<inline-formula><tex-math> $_{0}$</tex-math></inline-formula>-CoPt Thin Films. IEEE Magnetics Letters, 2014, 5, 1-4.	1.1	2
130	Computation of the magnetostatic interaction between linearly magnetized polyhedrons. Journal of Magnetism and Magnetic Materials, 2016, 412, 132-137.	2.3	2
131	Micromagnetic simulations of spin-torque driven magnetization dynamics with spatially resolved spin transport and magnetization texture. Physical Review B, 2017, 96, .	3.2	2
132	Current-induced instability of domain walls in cylindrical nanowires. Journal of Physics Condensed Matter, 2018, 30, 015801.	1.8	2
133	Managing Large Volumes of Distributed Scientific Data. Lecture Notes in Computer Science, 2008, , 339-348.	1.3	2
134	Complex agent interactions in operational simulations for aerospace design. , 2012, , .		1
135	Parallel execution and scriptability in micromagnetic simulations. , 0, .		1
136	Exploiting Real-Time 3d Visualisation to Enthuse Students: A Case Study of Using Visual Python in Engineering. Lecture Notes in Computer Science, 2006, , 139-146.	1.3	1
137	Monte Carlo simulation of layered high-temperature superconductors. Physica C: Superconductivity and Its Applications, 2000, 341-348, 1303-1304.	1.2	0
138	Driving force for commensurate vortex domain formation in periodic pinning arrays. Physica C: Superconductivity and Its Applications, 2004, 404, 50-55.	1.2	0
139	Shape induced anisotropy in hybrid anti-dot arrays from guided self-assembly templates. , 2005, , .		0
140	Anisotropy of Magnetization Reversal and Magnetoresistance in Square Arrays of Permalloy Nano-Rings. , 2006, , .		0
141	Nonequilibrium dynamics in type-II superconductors with inhomogeneous vortex pinning. Physica C: Superconductivity and Its Applications, 2009, 469, 2008-2011.	1.2	0
142	Electric field driven domain wall transfer in hybrid structures. , 2012, , .		0
143	Magnetic skyrmions motion driven by propagating spin waves. , 2015, , .		0
144	Methodology for indentifying the Curie temperature distributions of magnetic granular systems. , 2017, , .		0

#	Article	IF	Citations
145	Ground state skyrmion and helical states in confined FeGe nanostructures. , 2017, , .		0
146	Buoyant Bubbles in the Virgo Cluster. Globular Clusters - Guides To Galaxies, 2007, , 234-236.	0.1	0
147	Virtual Micromagnetics: A Framework for Accessible and Reproducible Micromagnetic Simulation. Journal of Open Research Software, 2016, 4, .	5.9	0
148	Data analysis infrastructure for serial crystallography experiments at the EuXFEL. Acta Crystallographica Section A: Foundations and Advances, 2019, 75, e25-e25.	0.1	0
149	Heating Rate Profiles in Galaxy Clusters. , 2007, , 251-256.		0