

Gianfranco Durin

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89
papers

2,000
citations

21
h-index

42
g-index

98
ext. papers

2,237
ext. citations

3.2
avg, IF

4.51
L-index

#	Paper	IF	Citations
89	Dynamics of a ferromagnetic domain wall: Avalanches, depinning transition, and the Barkhausen effect. <i>Physical Review B</i> , 1998 , 58, 6353-6366	3.3	301
88	Scaling exponents for barkhausen avalanches in polycrystalline and amorphous ferromagnets. <i>Physical Review Letters</i> , 2000 , 84, 4705-8	7.4	175
87	Universality beyond power laws and the average avalanche shape. <i>Nature Physics</i> , 2011 , 7, 316-320	16.2	155
86	Dynamics of a Ferromagnetic Domain Wall and the Barkhausen Effect. <i>Physical Review Letters</i> , 1997 , 79, 4669-4672	7.4	103
85	Acoustic and Electromagnetic Emissions as Precursor Phenomena in Failure Processes. <i>Strain</i> , 2011 , 47, 144-152	1.7	85
84	Signature of effective mass in crackling-noise asymmetry. <i>Nature Physics</i> , 2005 , 1, 46-49	16.2	85
83	The Barkhausen Effect 2006 , 181-267		66
82	Scaling aspects of domain wall dynamics and Barkhausen effect in ferromagnetic materials. <i>Journal of Applied Physics</i> , 1994 , 75, 5490-5492	2.5	44
81	FRACTALS, SCALING AND THE QUESTION OF SELF-ORGANIZED CRITICALITY IN MAGNETIZATION PROCESSES. <i>Fractals</i> , 1995 , 03, 351-370	3.2	43
80	Current-driven domain wall mobility in polycrystalline Permalloy nanowires: A numerical study. <i>Journal of Applied Physics</i> , 2014 , 115, 233903	2.5	40
79	Quantitative Scaling of Magnetic Avalanches. <i>Physical Review Letters</i> , 2016 , 117, 087201	7.4	35
78	The role of stationarity in magnetic crackling noise. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , 2006 , 2006, P01002-P01002	1.9	34
77	Enhancement of the Dzyaloshinskii-Moriya interaction and domain wall velocity through interface intermixing in Ta/CoFeB/MgO. <i>Physical Review B</i> , 2019 , 99,	3.3	30
76	Individual skyrmion manipulation by local magnetic field gradients. <i>Communications Physics</i> , 2019 , 2,	5.4	30
75	Barkhausen noise in soft amorphous magnetic materials under applied stress. <i>Journal of Applied Physics</i> , 1999 , 85, 5196-5198	2.5	29
74	Low-field hysteresis in disordered ferromagnets. <i>Physical Review B</i> , 2002 , 65,	3.3	28
73	Random free energy model for the description of hysteresis. <i>Journal of Applied Physics</i> , 1996 , 79, 5764	2.5	28

72	A numerical approach to incorporate intrinsic material defects in micromagnetic simulations. <i>Journal of Applied Physics</i> , 2014 , 115, 17D102	2.5	25
71	On the power spectrum of magnetization noise. <i>Journal of Magnetism and Magnetic Materials</i> , 2002 , 242-245, 1085-1088	2.8	25
70	Effects of thickness on the statistical properties of the Barkhausen noise in amorphous films. <i>Physica B: Condensed Matter</i> , 2006 , 384, 144-146	2.8	23
69	Avalanche spatial structure and multivariable scaling functions: sizes, heights, widths, and views through windows. <i>Physical Review E</i> , 2011 , 84, 061103	2.4	22
68	Crackling noise and universality in fracture systems. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , 2009 , 2009, P01023	1.9	21
67	Proximity magnetoresistance in Au ₈₀ Fe ₂₀ and Au ₇₀ Fe ₃₀ below the ordering temperature. <i>Journal of Applied Physics</i> , 2002 , 91, 5936-5939	2.5	21
66	Playing with universality classes of Barkhausen avalanches. <i>Scientific Reports</i> , 2018 , 8, 11294	4.9	20
65	Loss separation for dynamic hysteresis in ferromagnetic thin films. <i>Physical Review Letters</i> , 2006 , 97, 257203	7.4	19
64	Enhancing domain wall velocity through interface intermixing in W-CoFeB-MgO films with perpendicular anisotropy. <i>Applied Physics Letters</i> , 2019 , 115, 122404	3.4	18
63	Influence of material defects on current-driven vortex domain wall mobility. <i>Physical Review B</i> , 2014 , 89,	3.3	18
62	Phase transitions in a disordered system in and out of equilibrium. <i>Physical Review Letters</i> , 2004 , 92, 257203	7.4	18
61	Ground-state optimization and hysteretic demagnetization: The random-field Ising model. <i>Physical Review B</i> , 2005 , 71,	3.3	18
60	Stochastic model for magnetic hysteresis. <i>Journal of Applied Physics</i> , 1999 , 86, 3253-3261	2.5	18
59	Effect of disorder on transverse domain wall dynamics in magnetic nanostrips. <i>Physical Review B</i> , 2012 , 86,	3.3	17
58	Dependence of Barkhausen pattern reproducibility on hysteresis loop size. <i>Physical Review E</i> , 1997 , 56, 2776-2780	2.4	17
57	Dynamic hysteresis in Finemet thin films. <i>IEEE Transactions on Magnetics</i> , 2003 , 39, 2666-2668	2	17
56	Low temperature properties of soft magnetic materials: Magnetic viscosity and 1/f thermal noise. <i>Journal of Applied Physics</i> , 1993 , 73, 5363-5365	2.5	17
55	Microscopic foundations of the Rayleigh law of hysteresis. <i>Journal of Magnetism and Magnetic Materials</i> , 2002 , 242-245, 987-992	2.8	16

54	Shape of a Barkhausen pulse. <i>Journal of Magnetism and Magnetic Materials</i> , 2004 , 272-276, E533-E534	2.8	15
53	Barkhausen pulse structure in an amorphous ferromagnet: Characterization by high-order spectra. <i>Physical Review E</i> , 1998 , 57, 6363-6369	2.4	15
52	Thermal effects on transverse domain wall dynamics in magnetic nanowires. <i>Applied Physics Letters</i> , 2015 , 106, 202401	3.4	14
51	New perspectives for the Barkhausen effect. <i>Computational Materials Science</i> , 2001 , 20, 436-442	3.2	14
50	Statistical properties of Barkhausen noise in amorphous ferromagnetic films. <i>Physical Review E</i> , 2014 , 90, 032821	2.4	13
49	Effect of Dipolar Interactions for Domain-Wall Dynamics in Magnetic Thin Films. <i>IEEE Transactions on Magnetics</i> , 2010 , 46, 228-230	2	13
48	Fractal properties of the Barkhausen effect. <i>Journal of Magnetism and Magnetic Materials</i> , 1995 , 140-144, 1835-1836	2.8	13
47	Measurements of the Barkhausen effect in FeCoB amorphous alloys. <i>Journal of Magnetism and Magnetic Materials</i> , 1996 , 160, 299-301	2.8	13
46	Magnetic viscosity, thermal relaxation, and thermal equilibrium noise in Co-based amorphous alloys at milliKelvin temperatures. <i>Journal of Applied Physics</i> , 1992 , 72, 4820-4825	2.5	12
45	Universality classes and crossover scaling of Barkhausen noise in thin films. <i>Physical Review B</i> , 2014 , 89,	3.3	11
44	Local magnetic behavior across the first order phase transition in La(Fe _{0.9} Co _{0.015} Si _{0.085}) ₁₃ magneto caloric compound. <i>Journal of Magnetism and Magnetic Materials</i> , 2016 , 400, 339-343	2.8	10
43	The effect of Dzyaloshinskii-Moriya interaction on field-driven domain wall dynamics analysed by a semi-analytical approach. <i>Journal Physics D: Applied Physics</i> , 2016 , 49, 465003	3	10
42	Creep turns linear in narrow ferromagnetic nanostrips. <i>Scientific Reports</i> , 2016 , 6, 20472	4.9	10
41	Universal properties of magnetization dynamics in polycrystalline ferromagnetic films. <i>Physical Review E</i> , 2013 , 88, 032811	2.4	10
40	Effect of stress anisotropy on hysteresis and Barkhausen noise in amorphous materials. <i>Journal of Applied Physics</i> , 1999 , 85, 4412-4414	2.5	10
39	Hysteresis and noise in ferromagnetic materials with parallel domain walls. <i>Physical Review B</i> , 2009 , 79,	3.3	9
38	Modeling Domain Wall Dynamics in Thin Magnetic Strips With Disorder. <i>IEEE Transactions on Magnetics</i> , 2010 , 46, 262-265	2	9
37	Wire edge dependent magnetic domain wall creep. <i>Physical Review B</i> , 2018 , 98,	3.3	8

36	Universality and size effects in the Barkhausen noise. <i>Journal of Applied Physics</i> , 2000 , 87, 7031-7033	2.5	8
35	REPRODUCIBLE TUNNELING MEASUREMENTS IN CERAMIC $Y_1Ba_2Cu_3O_{7-x}$ SAMPLES WITH DIFFERENT OXYGEN CONTENT. <i>International Journal of Modern Physics B</i> , 1991 , 05, 1899-1912	1.1	8
34	Collective coordinate descriptions of magnetic domain wall motion in perpendicularly magnetized nanostructures under the application of in-plane fields. <i>Journal of Magnetism and Magnetic Materials</i> , 2018 , 468, 25-43	2.8	7
33	Eddy current damping of a moving domain wall: Beyond the quasistatic approximation. <i>Physical Review B</i> , 2007 , 76,	3.3	7
32	Analytical Modelling of Magnetic DW Motion. <i>Physics Procedia</i> , 2015 , 75, 974-985		6
31	Signature of negative domain wall mass in soft magnetic materials. <i>Journal of Magnetism and Magnetic Materials</i> , 2007 , 316, 436-441	2.8	6
30	Barkhausen noise in nucleation-type hard magnetic materials. <i>Journal of Magnetism and Magnetic Materials</i> , 2004 , 272-276, E539-E541	2.8	6
29	Vortex dynamics in Co-Fe-B magnetic tunnel junctions in presence of defects. <i>Journal of Applied Physics</i> , 2015 , 117, 17E107	2.5	5
28	Determination of Barkhausen signal scaling from higher order spectral analysis. <i>IEEE Transactions on Magnetics</i> , 1998 , 34, 1171-1173	2	5
27	A reference system for the measurement of low-strength magnetic flux density. <i>Journal of Magnetism and Magnetic Materials</i> , 2006 , 304, e540-e542	2.8	5
26	. <i>IEEE Transactions on Magnetics</i> , 1994 , 30, 464-466	2	5
25	Magnetic viscosity in r.f.SQUIDS coupled to ferromagnetic cores. <i>Physica B: Condensed Matter</i> , 1990 , 165-166, 65-66	2.8	5
24	Collective coordinate models of domain wall motion in perpendicularly magnetized systems under the spin hall effect and longitudinal fields. <i>Journal of Magnetism and Magnetic Materials</i> , 2017 , 426, 195-201	2.8	4
23	Visualization of avalanches in magnetic thin films: temporal processing. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , 2009 , 2009, P01020	1.9	4
22	Investigation of scaling properties of hysteresis in Finemet thin films. <i>Journal of Magnetism and Magnetic Materials</i> , 2004 , 272-276, E913-E914	2.8	4
21	Magnetic viscosity of Co-based amorphous alloys between 0.02 and 4.2 K. <i>Journal of Magnetism and Magnetic Materials</i> , 1991 , 101, 89-91	2.8	4
20	Acoustic and electromagnetic emissions in rocks under compression. <i>Conference Proceedings of the Society for Experimental Mechanics</i> , 2011 , 57-64	0.3	4
19	Comparison between collective coordinate models for domain wall motion in PMA nanostrips in the presence of the Dzyaloshinskii-Moriya interaction. <i>Journal of Magnetism and Magnetic Materials</i> , 2018 , 449, 337-352	2.8	3

18	The role of disorder in the domain wall dynamics of magnetic nanostrips. <i>European Physical Journal B</i> , 2013 , 86, 1	1.2	3
17	Is demagnetization an efficient optimization method?. <i>Journal of Magnetism and Magnetic Materials</i> , 2004 , 272-276, E1009-E1010	2.8	3
16	Barkhausen jumps and magnetic viscosity in NdFeB magnets. <i>Journal of Magnetism and Magnetic Materials</i> , 2005 , 290-291, 1184-1187	2.8	3
15	Connection between hysteresis, Barkhausen noise, and microstructure in magnetic materials. <i>Journal of Applied Physics</i> , 2000 , 87, 4768-4770	2.5	3
14	New elements for a theory of the Barkhausen effect. <i>European Physical Journal Special Topics</i> , 1998 , 08, Pr2-319-Pr2-322		3
13	Thermally activated domain wall dynamics in a disordered magnetic nanostrip. <i>Journal of Applied Physics</i> , 2011 , 109, 07D345	2.5	2
12	Fabrication of New Magnetic Micro-Machines for Minimally Invasive Surgery. <i>IEEE Transactions on Magnetics</i> , 2008 , 44, 4488-4491	2	2
11	Complex dynamics of magnetic domain walls. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2002 , 314, 230-234	3.3	2
10	Magnetic domain wall curvature induced by wire edge pinning. <i>Applied Physics Letters</i> , 2020 , 117, 062406	4	2
9	Fabrication of new Magnetic Micro-Machines for minimally invasive surgery. <i>Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference</i> , 2008 , 2008, 735-8	0.9	1
8	Loss separation for dynamic hysteresis in magnetic thin films. <i>Journal of Magnetism and Magnetic Materials</i> , 2007 , 316, e549-e551	2.8	1
7	Dipolar interactions in ferromagnetic systems: Dynamic hysteresis from parallel domain walls. <i>Physica B: Condensed Matter</i> , 2008 , 403, 422-424	2.8	1
6	Dynamic hysteresis in Finemet thin films		1
5	Stochastic approach to domain wall dynamics and ferromagnetic hysteresis. <i>Journal of Magnetism and Magnetic Materials</i> , 1996 , 157-158, 353-354	2.8	1
4	Dynamics and morphology of chiral magnetic bubbles in perpendicularly magnetized ultra-thin films. <i>Journal of Magnetism and Magnetic Materials</i> , 2018 , 456, 433-438	2.8	0
3	Modeling thermally activated domain wall dynamics in thin magnetic strips with disorder. <i>Journal of Physics: Conference Series</i> , 2011 , 292, 012008	0.3	
2	USE OF THE ONE-AND-A-HALF-SPECTRUM TO DETERMINE BARKHAUSEN NOISE ASYMMETRY. <i>Fluctuation and Noise Letters</i> , 2007 , 07, L13-L18	1.2	
1	AE monitoring of the Syracuse Athena Temple: Scale invariance in the timing of ruptures. <i>Conference Proceedings of the Society for Experimental Mechanics</i> , 2011 , 95-101	0.3	

