Massimiliano d'Aquino

List of Publications by Year
in descending order

105 papers	1,880 citations	331670 21 h-index	289244 40 g-index
106 all docs	106 docs citations	106 times ranked	1466 citing authors

#	Article	IF	Citations
1	Magnetostatic Field Computation in Thin Films Based on <i>k</i>-Space Fast Convolution With Truncated Greenâ€™s Function. IEEE Transactions on Magnetics, 2022, 58, 1-6.	2.1	1
2	Numerical Solution of the Fokker-Planck Equation by Spectral Collocation and Finite-Element Methods for Stochastic Magnetization Dynamics. IEEE Transactions on Magnetics, 2022, 58, 1-4.	2.1	3
3	A Local Gauge Description of the Interaction Between Magnetization and Electric Field in a Ferromagnet. IEEE Transactions on Magnetics, 2022, 58, 1-4.	2.1	3
4	Computational micromagnetics based on normal modes: Bridging the gap between macrospin and full spatial discretization. Journal of Magnetism and Magnetic Materials, 2022, 546, 168683.	2.3	13
5	Impact of Magneto-Electric Coupling on Metastable Magnetic States in Thin Disks. IEEE Transactions on Magnetics, 2022, 58, 1-5.	2.1	1
6	Magnetization switching in the inertial regime. Physical Review B, 2022, 105, .	3.2	20
7	Normal modes description of nonlinear ferromagnetic resonance for magnetic nanodots. AIP Advances, 2022, 12, 035244.	1.3	1
8	Inertial spin dynamics in ferromagnets. Nature Physics, 2021, 17, 245-250.	16.7	78
9	Analysis in <i>k</i>-Space of Magnetization Dynamics Driven by Strong Terahertz Fields. IEEE Transactions on Magnetics, 2021, 57, 1-5.	2.1	2
10	Micromagnetic study of statistical switching in magnetic tunnel junctions stabilized by perpendicular shape anisotropy. Physica B: Condensed Matter, 2020, 577, 411744.	2.7	6
11	Opportunities and challenges for spintronics in the microelectronics industry. Nature Electronics, 2020, 3, 446-459.	26.0	471
12	Nonlinear Magnetization Dynamics Driven by Strong Terahertz Fields. Physical Review Letters, 2019, 123, 197204.	7.8	26
13	Compact Modeling of Perpendicular STT-MTJs With Double Reference Layers. IEEE Nanotechnology Magazine, 2019, 18, 1063-1070.	2.0	25
14	Magnetization reversal driven by low dimensional chaos in a nanoscale ferromagnet. Nature Communications, 2019, 10, 543.	12.8	27
15	Micromagnetic measurements of ferromagnetic materials: Validation of a 3D numerical model. NDT and E International, 2019, 104, 77-89.	3.7	4
16	Analysis of switching times statistical distributions for perpendicular magnetic memories. Journal of Magnetism and Magnetic Materials, 2019, 475, 652-661.	2.3	9
17	Transient Chaos in Nanomagnets Subject to Elliptically Polarized AC Applied Fields. IEEE Transactions on Magnetics, 2019, 55, 1-5.	2.1	2
18	Large scale finite-element simulation of micromagnetic thermal noise. Journal of Magnetism and Magnetic Materials, 2019, 475, 408-414.	2.3	16

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19	Efficient adaptive pseudo-symplectic numerical integration techniques for Landau-Lifshitz dynamics. AIP Advances, 2018, 8, 056014.	1.3	2
20	Pseudo-symplectic numerical schemes for Landau-Lifshitz dynamics. Physica B: Condensed Matter, 2018, 549, 98-101.	2.7	0
21	Description of Statistical Switching in Perpendicular STT-MRAM Within an Analytical and Numerical Micromagnetic Framework. IEEE Transactions on Magnetics, 2018, 54, 1-10.	2.1	18
22	Micromagnetic Analysis of Statistical Switching in Perpendicular Magnetic Tunnel Junctions With Double Reference Layers. IEEE Magnetics Letters, 2018, 9, 1-5.	1.1	14
23	Normal form of nonlinear oscillator model relevant to spin-torque nano-oscillator theory. Physica B: Condensed Matter, 2018, 549, 87-90.	2.7	4
24	Influence of the Second-Order Uniaxial Anisotropy on the Dynamical Proprieties of Magnetic Tunnel Junctions. IEEE Transactions on Magnetics, 2017, 53, 1-7.	2.1	5
25	Current-Driven Hysteretic Synchronization in Vortex Nanopillar Spin-Transfer Oscillators. IEEE Magnetics Letters, 2017, 8, 1-5.	1.1	3
26	Effect of Temperature in Hysteretic Synchronization of Magnetic Vortex Spin-Torque Nano-Oscillators. IEEE Transactions on Magnetics, 2017, 53, 1-5.	2.1	3
27	Analytical Treatment of Nonlinear Ferromagnetic Resonance in Nanomagnets. IEEE Transactions on Magnetics, 2017, 53, 1-5.	2.1	6
28	A Compact Model with Spin-Polarization Asymmetry for Nanoscaled Perpendicular MTJs. IEEE Transactions on Electron Devices, 2017, 64, 4346-4353.	3.0	40
29	Large Hysteresis effect in Synchronization of Nanocontact Vortex Oscillators by Microwave Fields. Scientific Reports, 2016, 6, 31630.	3.3	7
30	Chaotic dynamics and basin erosion in nanomagnets subject to time-harmonic magnetic fields. Physica B: Condensed Matter, 2016, 486, 121-125.	2.7	4
31	Analytical solution of precessional switching in nanomagnets driven by hard-axis field pulses. Physica B: Condensed Matter, 2016, 486, 126-129.	2.7	8
32	Noise-induced bifurcations in magnetization dynamics of uniaxial nanomagnets. Journal of Applied Physics, 2015, 117, .	2.5	6
33	Heteroclinic tangle phenomena in nanomagnets subject to time-harmonic excitations. Journal of Applied Physics, 2015, 117, .	2.5	6
34	Analysis of reliable sub-ns spin-torque switching under transverse bias magnetic fields. Journal of Applied Physics, 2015, 117, 17B716.	2.5	5
35	Micromagnetic study of minimum-energy dissipation during Landauer erasure of either isolated or coupled nanomagnetic switches. Physical Review B, 2014, 90, .	3.2	9
36	Phase-Flow Interpretation of Magnetization Relaxation in Nanomagnets. IEEE Transactions on Magnetics, 2014, 50, 1-4.	2.1	5

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37	Analysis of Reliable Ultrafast Precessional Switching in the Presence of Transverse Applied Magnetic Fields. IEEE Transactions on Magnetics, 2014, 50, 1-4.	2.1	0
38	Three-Dimensional Computation of Magnetic Fields in Hysteretic Media With Time-Periodic Sources. IEEE Transactions on Magnetics, 2014, 50, 53-56.	2.1	10
39	Efficient Numerical Solution of Magnetic Field Problems in Presence of Hysteretic Media for Nondestructive Evaluation. IEEE Transactions on Magnetics, 2013, 49, 3167-3170.	2.1	5
40	Computation of Magnetization Normal Oscillation Modes in Complex Micromagnetic Systems. IFAC Postprint Volumes IPPV / International Federation of Automatic Control, 2012, 45, 504-509.	0.4	3
41	Thermally induced synchronization and stochastic resonance between magnetization regimes in spin-transfer nano-oscillators. Journal of Applied Physics, 2012, 111, 07C915.	2.5	5
42	Analysis of magnetization instability patterns in spin-transfer nano-oscillators. European Physical Journal B, 2012, 85, 1.	1.5	3
43	Analysis of thermally induced magnetization dynamics in spin-transfer nano-oscillators. Physica B: Condensed Matter, 2012, 407, 1389-1393.	2.7	4
44	Analysis of synchronized regimes for injection-locked spin-transfer nano-oscillators. Physica B: Condensed Matter, 2012, 407, 1357-1364.	2.7	4
45	A generalization of the fundamental theorem of Brown for fine ferromagnetic particles. Physica B: Condensed Matter, 2012, 407, 1368-1371.	2.7	9
46	Stability of magnetization oscillations driven by spin-polarized currents. Journal of Applied Physics, 2011, 109, 07C902.	2.5	1
47	Micromagnetic study of phase-locking in spin-transfer nano-oscillators driven by currents and ac fields. Journal of Applied Physics, 2011, 109, 07C914.	2.5	7
48	Current-driven chaotic magnetization dynamics in microwave assisted switching of spin-valve elements. Journal of Applied Physics, 2011, 109, 07D349.	2.5	6
49	Stochastic resonance in noise-induced transitions between self-oscillations and equilibria in spin-valve nanomagnets. Physical Review B, 2011, 84, .	3.2	19
50	Analytical study of synchronization in spin-transfer-driven magnetization dynamics. Journal of Physics: Conference Series, 2010, 200, 042005.	0.4	1
51	Micromagnetic analysis of injection locking in spin-transfer nano-oscillators. Physical Review B, 2010, 82, .	3.2	36
52	Spin-Wave Instabilities in Spin-Transfer-Driven Magnetization Dynamics. IEEE Magnetics Letters, 2010, 1, 3000104-3000104.	1.1	6
53	Dipolar mode localization and spectral gaps in quasi-periodic arrays of ferromagnetic nanoparticles. Physical Review B, 2009, 79, .	3.2	7
54	Spin-wave analysis of uniaxial nanopillar devices. Journal of Applied Physics, 2009, 105, 07D104.	2.5	7

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55	Finite element computations of resonant modes for small magnetic particles. Journal of Applied Physics, 2009, 105, .	2.5	4
56	Full Micromagnetic Numerical Simulations of Thermal Fluctuations. IEEE Transactions on Magnetics, 2009, 45, 3919-3922.	2.1	15
57	Magnetic-Field-Driven Ferromagnetic Resonance in Spin-Transfer Devices. IEEE Transactions on Magnetics, 2009, 45, 3445-3448.	2.1	2
58	Nonlinear Resonant and Chaotic Dynamics in Microwave Assisted Magnetization Switching. IEEE Transactions on Magnetics, 2009, 45, 3950-3953.	2.1	7
59	Theory of Injection Locking for Large Magnetization Motion in Spin-Transfer Nano-Oscillators. IEEE Transactions on Magnetics, 2009, 45, 3441-3444.	2.1	32
60	A novel formulation for the numerical computation of magnetization modes in complex micromagnetic systems. Journal of Computational Physics, 2009, 228, 6130-6149.	3.8	39
61	Analytical treatment of synchronization of spin-torque oscillators by microwave magnetic fields. European Physical Journal B, 2009, 68, 221-231.	1.5	32
62	Spectral micromagnetic analysis of switching processes. Journal of Applied Physics, 2009, 105, .	2.5	5
63	Numerical Solutions of the Fokkerâ€“Planck Equation for Magnetic Nanoparticles. IEEE Transactions on Magnetics, 2009, 45, 5216-5219.	2.1	0
64	Analytical Description of Quasi-Random Magnetization Relaxation to Equilibrium. IEEE Transactions on Magnetics, 2009, 45, 5224-5227.	2.1	15
65	Nonlinear-dynamical-system approach to microwave-assisted magnetization dynamics (invited). Journal of Applied Physics, 2009, 105, .	2.5	53
66	Magnetization normal oscillation modes in saturated ferromagnetic nanoparticles. Physica B: Condensed Matter, 2008, 403, 242-244.	2.7	7
67	Generalized Landauâ€“Lifshitzâ€“Gilbert equation for uniformly magnetized bodies. Physica B: Condensed Matter, 2008, 403, 282-285.	2.7	7
68	A rigorous treatment of nucleation modes spectrum in micromagnetics. Physica B: Condensed Matter, 2008, 403, 346-349.	2.7	3
69	Path Integral Approach to Stochastic Magnetization Dynamics in Uniaxial Ferromagnetic Nanoparticles. IEEE Transactions on Magnetics, 2008, 44, 3157-3160.	2.1	6
70	Thermal fluctuations in magnetic nanoparticles: Numerical testing of Langevin approach. Journal of Applied Physics, 2008, 103, 07B119.	2.5	4
71	Computation of Resonant Modes and Frequencies for Saturated Ferromagnetic Nanoparticles. IEEE Transactions on Magnetics, 2008, 44, 3141-3144.	2.1	8
72	Analysis of power spectral density of random Landau-Lifshitz-Slonczewski dynamics by using stochastic processes on graphs. Journal of Applied Physics, 2008, 103, 07B120.	2.5	2

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73	Model of phase locking in spin-transfer-driven magnetization dynamics. Journal of Applied Physics, 2007, 101, 09A506.	2.5	8
74	Power spectrum of current-induced magnetization dynamics in uniaxial nanomagnets. Journal of Applied Physics, 2007, 101, 09A507.	2.5	11
75	Current-induced magnetization dynamics in nanomagnets. Journal of Magnetism and Magnetic Materials, 2007, 316, 285-290.	2.3	28
76	Foldover, quasi-periodicity, spin-wave instabilities in ultra-thin films subject to RF fields. Journal of Magnetism and Magnetic Materials, 2007, 316, e523-e525.	2.3	3
77	Effect of thermal fluctuations in spin-torque driven magnetization dynamics. Journal of Magnetism and Magnetic Materials, 2007, 316, e919-e922.	2.3	4
78	Analytical study of magnetization dynamics driven by spin-polarized currents. European Physical Journal B, 2007, 59, 435-445.	1.5	21
79	Micromagnetic analysis of foldover, quasiperiodicity, and parametric instabilities in ultra-thin films. , 2006, , .		0
80	Midpoint numerical technique for stochastic Landau-Lifshitz-Gilbert dynamics. Journal of Applied Physics, 2006, 99, 08B905.	2.5	56
81	Thermal Stability in Uniaxial Nanomagnets Driven by Spin-Polarized Currents. IEEE Transactions on Magnetics, 2006, 42, 2679-2681.	2.1	6
82	Foldover, Quasi-Periodicity, and Spin-Wave Instabilities in Ultra-Thin Magnetic Films. IEEE Transactions on Magnetics, 2006, 42, 3195-3197.	2.1	5
83	Thermal stability in spin-torque-driven magnetization dynamics. Journal of Applied Physics, 2006, 99, 08G505.	2.5	22
84	Thermally induced switching in uniaxial nanomagnets subject to spin-polarized currents. , 2006, , .		0
85	Analytical approach to current-driven self-oscillations in Landauâ€“Lifshitzâ€“Gilbert dynamics. Journal of Magnetism and Magnetic Materials, 2005, 290-291, 502-505.	2.3	25
86	Analysis of fast switching in tilted media. Journal of Magnetism and Magnetic Materials, 2005, 290-291, 506-509.	2.3	4
87	Micromagnetic analysis of fast precessional switching. Journal of Magnetism and Magnetic Materials, 2005, 290-291, 510-513.	2.3	6
88	Geometrical integration of Landauâ€“Lifshitzâ€“Gilbert equation based on the mid-point rule. Journal of Computational Physics, 2005, 209, 730-753.	3.8	108
89	Magnetization self-oscillations induced by spin-polarized currents. IEEE Transactions on Magnetics, 2005, 41, 2574-2576.	2.1	6
90	Transient dynamics leading to self-oscillations in nanomagnets driven by spin-polarized currents. IEEE Transactions on Magnetics, 2005, 41, 3100-3102.	2.1	4

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91	Numerical integration of Landauâ€“Lifshitzâ€“Gilbert equation based on the midpoint rule. Journal of Applied Physics, 2005, 97, 10E319.	2.5	24
92	Magnetization Switching and Microwave Oscillations in Nanomagnets Driven by Spin-Polarized Currents. Physical Review Letters, 2005, 94, 127206.	7.8	179
93	Quasiperiodic magnetization dynamics in uniformly magnetized particles and films. Journal of Applied Physics, 2004, 95, 7052-7054.	2.5	24
94	A new class of Preisach-type isotropic vector model of hysteresis. Physica B: Condensed Matter, 2004, 343, 117-120.	2.7	21
95	A new approach to computations of forces in magnetic fluids. Journal of Magnetism and Magnetic Materials, 2004, 272-276, 657-658.	2.3	0
96	A new Preisach-type vector model of hysteresis. Journal of Magnetism and Magnetic Materials, 2004, 272-276, 731-733.	2.3	2
97	Analysis of quasiperiodic Landauâ€“Lifshitzâ€“Gilbert dynamics. Journal of Magnetism and Magnetic Materials, 2004, 272-276, 734-735.	2.3	4
98	Numerical and analytical study of fast precessional switching. Journal of Applied Physics, 2004, 95, 7055-7057.	2.5	24
99	A new vector model of magnetic hysteresis based on a novel class of play hysterons. IEEE Transactions on Magnetics, 2003, 39, 2537-2539.	2.1	26
100	Deformations of polarizable fluids subject to stationary electromagnetic fields. IEEE Transactions on Magnetics, 2003, 39, 1440-1443.	2.1	1
101	Geometrical analysis of precessional switching and relaxation in uniformly magnetized bodies. IEEE Transactions on Magnetics, 2003, 39, 2501-2503.	2.1	22
102	Forces in magnetic fluids subject to stationary magnetic fields. IEEE Transactions on Magnetics, 2003, 39, 2657-2659.	2.1	8
103	Forces in magnetic fluids subject to stationary magnetic fields. , 0, , .		0
104	Geometrical analysis of precessional switching. , 0, , .		0
105	A new vector model of magnetic hysteresis based on a novel class of play hysterons. , 0, , .		0