Massimiliano d'Aquino

List of Publications by Year
in descending order

105	1,880	331670	289244
papers	citations	21 h-index	40 g-index

106	106	106	1466
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Opportunities and challenges for spintronics in the microelectronics industry. Nature Electronics, 2020, 3, 446-459.	26.0	471
2	Magnetization Switching and Microwave Oscillations in Nanomagnets Driven by Spin-Polarized Currents. Physical Review Letters, 2005, 94, 127206.	7.8	179
3	Geometrical integration of Landauâ€“Lifshitzâ€“Gilbert equation based on the mid-point rule. Journal of Computational Physics, 2005, 209, 730-753.	3.8	108
4	Inertial spin dynamics in ferromagnets. Nature Physics, 2021, 17, 245-250.	16.7	78
5	Midpoint numerical technique for stochastic Landau-Lifshitz-Gilbert dynamics. Journal of Applied Physics, 2006, 99, 08B905.	2.5	56
6	Nonlinear-dynamical-system approach to microwave-assisted magnetization dynamics (invited). Journal of Applied Physics, 2009, 105, .	2.5	53
7	A Compact Model with Spin-Polarization Asymmetry for Nanoscaled Perpendicular MTJs. IEEE Transactions on Electron Devices, 2017, 64, 4346-4353.	3.0	40
8	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
9	Micromagnetic analysis of injection locking in spin-transfer nano-oscillators. Physical Review B, 2010, 82, .	3.2	36
10	Theory of Injection Locking for Large Magnetization Motion in Spin-Transfer Nano-Oscillators. IEEE Transactions on Magnetics, 2009, 45, 3441-3444.	2.1	32
11	Analytical treatment of synchronization of spin-torque oscillators by microwave magnetic fields. European Physical Journal B, 2009, 68, 221-231.	1.5	32
12	Current-induced magnetization dynamics in nanomagnets. Journal of Magnetism and Magnetic Materials, 2007, 316, 285-290.	2.3	28
13	Magnetization reversal driven by low dimensional chaos in a nanoscale ferromagnet. Nature Communications, 2019, 10, 543.	12.8	27
14	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
15	Nonlinear Magnetization Dynamics Driven by Strong Terahertz Fields. Physical Review Letters, 2019, 123, 197204.	7.8	26
16	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
17	Compact Modeling of Perpendicular STT-MTJs With Double Reference Layers. IEEE Nanotechnology Magazine, 2019, 18, 1063-1070.	2.0	25
18	Quasiperiodic magnetization dynamics in uniformly magnetized particles and films. Journal of Applied Physics, 2004, 95, 7052-7054.	2.5	24

#	Article	IF	Citations
19	Numerical and analytical study of fast precessional switching. Journal of Applied Physics, 2004, 95, 7055-7057.	2.5	24
20	Numerical integration of Landauâ€“Lifshitzâ€“Gilbert equation based on the midpoint rule. Journal of Applied Physics, 2005, 97, 10E319.	2.5	24
21	Geometrical analysis of precessional switching and relaxation in uniformly magnetized bodies. IEEE Transactions on Magnetics, 2003, 39, 2501-2503.	2.1	22
22	Thermal stability in spin-torque-driven magnetization dynamics. Journal of Applied Physics, 2006, 99, 08G505.	2.5	22
23	A new class of Preisach-type isotropic vector model of hysteresis. Physica B: Condensed Matter, 2004, 343, 117-120.	2.7	21
24	Analytical study of magnetization dynamics driven by spin-polarized currents. European Physical Journal B, 2007, 59, 435-445.	1.5	21
25	Magnetization switching in the inertial regime. Physical Review B, 2022, 105, .	3.2	20
26	Stochastic resonance in noise-induced transitions between self-oscillations and equilibria in spin-valve nanomagnets. Physical Review B, 2011, 84, .	3.2	19
27	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
28	Large scale finite-element simulation of micromagnetic thermal noise. Journal of Magnetism and Magnetic Materials, 2019, 475, 408-414.	2.3	16
29	Full Micromagnetic Numerical Simulations of Thermal Fluctuations. IEEE Transactions on Magnetics, 2009, 45, 3919-3922.	2.1	15
30	Analytical Description of Quasi-Random Magnetization Relaxation to Equilibrium. IEEE Transactions on Magnetics, 2009, 45, 5224-5227.	2.1	15
31	Micromagnetic Analysis of Statistical Switching in Perpendicular Magnetic Tunnel Junctions With Double Reference Layers. IEEE Magnetics Letters, 2018, 9, 1-5.	1.1	14
32	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
33	Power spectrum of current-induced magnetization dynamics in uniaxial nanomagnets. Journal of Applied Physics, 2007, 101, 09A507.	2.5	11
34	Three-Dimensional Computation of Magnetic Fields in Hysteretic Media With Time-Periodic Sources. IEEE Transactions on Magnetics, 2014, 50, 53-56.	2.1	10
35	A generalization of the fundamental theorem of Brown for fine ferromagnetic particles. Physica B: Condensed Matter, 2012, 407, 1368-1371.	2.7	9
36	Micromagnetic study of minimum-energy dissipation during Landauer erasure of either isolated or coupled nanomagnetic switches. Physical Review B, 2014, 90, .	3.2	9

#	Article	IF	Citations
37	Analysis of switching times statistical distributions for perpendicular magnetic memories. Journal of Magnetism and Magnetic Materials, 2019, 475, 652-661.	2.3	9
38	Forces in magnetic fluids subject to stationary magnetic fields. IEEE Transactions on Magnetics, 2003, 39, 2657-2659.	2.1	8
39	Model of phase locking in spin-transfer-driven magnetization dynamics. Journal of Applied Physics, 2007, 101, 09A506.	2.5	8
40	Computation of Resonant Modes and Frequencies for Saturated Ferromagnetic Nanoparticles. IEEE Transactions on Magnetics, 2008, 44, 3141-3144.	2.1	8
41	Analytical solution of precessional switching in nanomagnets driven by hard-axis field pulses. Physica B: Condensed Matter, 2016, 486, 126-129.	2.7	8
42	Magnetization normal oscillation modes in saturated ferromagnetic nanoparticles. Physica B: Condensed Matter, 2008, 403, 242-244.	2.7	7
43	Generalized Landauâ€“Lifshitzâ€“Gilbert equation for uniformly magnetized bodies. Physica B: Condensed Matter, 2008, 403, 282-285.	2.7	7
44	Dipolar mode localization and spectral gaps in quasi-periodic arrays of ferromagnetic nanoparticles. Physical Review B, 2009, 79, .	3.2	7
45	Spin-wave analysis of uniaxial nanopillar devices. Journal of Applied Physics, 2009, 105, 07D104.	2.5	7
46	Nonlinear Resonant and Chaotic Dynamics in Microwave Assisted Magnetization Switching. IEEE Transactions on Magnetics, 2009, 45, 3950-3953.	2.1	7
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	Large Hysteresis effect in Synchronization of Nanocontact Vortex Oscillators by Microwave Fields. Scientific Reports, 2016, 6, 31630.	3.3	7
49	Micromagnetic analysis of fast precessional switching. Journal of Magnetism and Magnetic Materials, 2005, 290-291, 510-513.	2.3	6
50	Magnetization self-oscillations induced by spin-polarized currents. IEEE Transactions on Magnetics, 2005, 41, 2574-2576.	2.1	6
51	Thermal Stability in Uniaxial Nanomagnets Driven by Spin-Polarized Currents. IEEE Transactions on Magnetics, 2006, 42, 2679-2681.	2.1	6
52	Path Integral Approach to Stochastic Magnetization Dynamics in Uniaxial Ferromagnetic Nanoparticles. IEEE Transactions on Magnetics, 2008, 44, 3157-3160.	2.1	6
53	Spin-Wave Instabilities in Spin-Transfer-Driven Magnetization Dynamics. IEEE Magnetics Letters, 2010, 1, 3000104-3000104.	1.1	6
54	Current-driven chaotic magnetization dynamics in microwave assisted switching of spin-valve elements. Journal of Applied Physics, 2011, 109, 07D349.	2.5	6

#	Article	IF	Citations
55	Noise-induced bifurcations in magnetization dynamics of uniaxial nanomagnets. Journal of Applied Physics, 2015, 117, .	2.5	6
56	Heteroclinic tangle phenomena in nanomagnets subject to time-harmonic excitations. Journal of Applied Physics, 2015, 117, .	2.5	6
57	Analytical Treatment of Nonlinear Ferromagnetic Resonance in Nanomagnets. IEEE Transactions on Magnetics, 2017, 53, 1-5.	2.1	6
58	Micromagnetic study of statistical switching in magnetic tunnel junctions stabilized by perpendicular shape anisotropy. Physica B: Condensed Matter, 2020, 577, 411744.	2.7	6
59	Foldover, Quasi-Periodicity, and Spin-Wave Instabilities in Ultra-Thin Magnetic Films. IEEE Transactions on Magnetics, 2006, 42, 3195-3197.	2.1	5
60	Spectral micromagnetic analysis of switching processes. Journal of Applied Physics, 2009, 105, .	2.5	5
61	Thermally induced synchronization and stochastic resonance between magnetization regimes in spin-transfer nano-oscillators. Journal of Applied Physics, 2012, 111, 07C915.	2.5	5
62	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
63	Phase-Flow Interpretation of Magnetization Relaxation in Nanomagnets. IEEE Transactions on Magnetics, 2014, 50, 1-4.	2.1	5
64	Analysis of reliable sub-ns spin-torque switching under transverse bias magnetic fields. Journal of Applied Physics, 2015, 117, 17B716.	2.5	5
65	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
66	Analysis of quasiperiodic Landauâ€“Lifshitzâ€“Gilbert dynamics. Journal of Magnetism and Magnetic Materials, 2004, 272-276, 734-735.	2.3	4
67	Analysis of fast switching in tilted media. Journal of Magnetism and Magnetic Materials, 2005, 290-291, 506-509.	2.3	4
68	Transient dynamics leading to self-oscillations in nanomagnets driven by spin-polarized currents. IEEE Transactions on Magnetics, 2005, 41, 3100-3102.	2.1	4
69	Effect of thermal fluctuations in spin-torque driven magnetization dynamics. Journal of Magnetism and Magnetic Materials, 2007, 316, e919-e922.	2.3	4
70	Thermal fluctuations in magnetic nanoparticles: Numerical testing of Langevin approach. Journal of Applied Physics, 2008, 103, 07B119.	2.5	4
71	Finite element computations of resonant modes for small magnetic particles. Journal of Applied Physics, 2009, 105, .	2.5	4
72	Analysis of thermally induced magnetization dynamics in spin-transfer nano-oscillators. Physica B: Condensed Matter, 2012, 407, 1389-1393.	2.7	4

#	Article	IF	Citations
73	Analysis of synchronized regimes for injection-locked spin-transfer nano-oscillators. Physica B: Condensed Matter, 2012, 407, 1357-1364.	2.7	4
74	Chaotic dynamics and basin erosion in nanomagnets subject to time-harmonic magnetic fields. Physica B: Condensed Matter, 2016, 486, 121-125.	2.7	4
75	Normal form of nonlinear oscillator model relevant to spin-torque nano-oscillator theory. Physica B: Condensed Matter, 2018, 549, 87-90.	2.7	4
76	Micromagnetic measurements of ferromagnetic materials: Validation of a 3D numerical model. NDT and E International, 2019, 104, 77-89.	3.7	4
77	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
78	A rigorous treatment of nucleation modes spectrum in micromagnetics. Physica B: Condensed Matter, 2008, 403, 346-349.	2.7	3
79	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
80	Analysis of magnetization instability patterns in spin-transfer nano-oscillators. European Physical Journal B, 2012, 85, 1.	1.5	3
81	Current-Driven Hysteretic Synchronization in Vortex Nanopillar Spin-Transfer Oscillators. IEEE Magnetics Letters, 2017, 8, 1-5.	1.1	3
82	Effect of Temperature in Hysteretic Synchronization of Magnetic Vortex Spin-Torque Nano-Oscillators. IEEE Transactions on Magnetics, 2017, 53, 1-5.	2.1	3
83	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
84	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
85	A new Preisach-type vector model of hysteresis. Journal of Magnetism and Magnetic Materials, 2004, 272-276, 731-733.	2.3	2
86	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
87	Magnetic-Field-Driven Ferromagnetic Resonance in Spin-Transfer Devices. IEEE Transactions on Magnetics, 2009, 45, 3445-3448.	2.1	2
88	Efficient adaptive pseudo-symplectic numerical integration techniques for Landau-Lifshitz dynamics. AIP Advances, 2018, 8, 056014.	1.3	2
89	Transient Chaos in Nanomagnets Subject to Elliptically Polarized AC Applied Fields. IEEE Transactions on Magnetics, 2019, 55, 1-5.	2.1	2
90	Analysis in k-Space of Magnetization Dynamics Driven by Strong Terahertz Fields. IEEE Transactions on Magnetics, 2021, 57, 1-5.	2.1	2

#	Article	IF	Citations
91	Deformations of polarizable fluids subject to stationary electromagnetic fields. IEEE Transactions on Magnetics, 2003, 39, 1440-1443.	2.1	1
92	Analytical study of synchronization in spin-transfer-driven magnetization dynamics. Journal of Physics: Conference Series, 2010, 200, 042005.	0.4	1
93	Stability of magnetization oscillations driven by spin-polarized currents. Journal of Applied Physics, 2011, 109, 07C902.	2.5	1
94	Magnetostatic Field Computation in Thin Films Based on k-Space Fast Convolution With Truncated Greenâ€™s Function. IEEE Transactions on Magnetics, 2022, 58, 1-6.	2.1	1
95	Impact of Magneto-Electric Coupling on Metastable Magnetic States in Thin Disks. IEEE Transactions on Magnetics, 2022, 58, 1-5.	2.1	1
96	Normal modes description of nonlinear ferromagnetic resonance for magnetic nanodots. AIP Advances, 2022, 12, 035244.	1.3	1
97	Forces in magnetic fluids subject to stationary magnetic fields. , 0, , .		0
98	Geometrical analysis of precessional switching. , 0, , .		0
99	A new vector model of magnetic hysteresis based on a novel class of play hysterons. , 0, , .		0
100	A new approach to computations of forces in magnetic fluids. Journal of Magnetism and Magnetic Materials, 2004, 272-276, 657-658.	2.3	0
101	Micromagnetic analysis of foldover, quasiperiodicity, and parametric instabilities in ultra-thin films. , 2006, , .		0
102	Thermally induced switching in uniaxial nanomagnets subject to spin-polarized currents. , 2006, , .		0
103	Numerical Solutions of the Fokkerâ€“Planck Equation for Magnetic Nanoparticles. IEEE Transactions on Magnetics, 2009, 45, 5216-5219.	2.1	0
104	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
105	Pseudo-symplectic numerical schemes for Landau-Lifshitz dynamics. Physica B: Condensed Matter, 2018, 549, 98-101.	2.7	0