

Liliana D Buda-Prejbeanu

List of Publications by Year in descending order

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105
papers

5,043
citations

136950

32
h-index

88630

70
g-index

106
all docs

106
docs citations

106
times ranked

4138
citing authors

#	ARTICLE	IF	CITATIONS
1	Room-temperature chiral magnetic skyrmions in ultrathin magnetic nanostructures. Nature Nanotechnology, 2016, 11, 449-454.	31.5	829
2	Fast current-induced domain-wall motion controlled by the Rashba effect. Nature Materials, 2011, 10, 419-423.	27.5	741
3	Flux Closure Structures in Cobalt Rings. Physical Review Letters, 2001, 86, 1102-1105.	7.8	298
4	Non-adiabatic spin-torques in narrow magnetic domain walls. Nature Physics, 2010, 6, 17-21.	16.7	194
5	Domain Wall Tilting in the Presence of the Dzyaloshinskii-Moriya Interaction in Out-of-Plane Magnetized Magnetic Nanotracks. Physical Review Letters, 2013, 111, 217203.	7.8	192
6	Chirality-Induced Asymmetric Magnetic Nucleation in Pt/Co Microstructures. Physical Review Letters, 2014, 113, 047203.	7.8	157
7	Ultra-Fast Perpendicular Spin-Orbit Torque MRAM. IEEE Transactions on Magnetics, 2018, 54, 1-4.	2.1	134
8	The defining length scales of mesomagnetism: a review. Journal of Physics Condensed Matter, 2002, 14, R1175-R1262.	1.8	130
9	Spin-orbit torque magnetization switching controlled by geometry. Nature Nanotechnology, 2016, 11, 143-146.	31.5	111
10	Current-Driven Skyrmion Dynamics and Drive-Dependent Skyrmion Hall Effect in an Ultrathin Film. Physical Review Applied, 2019, 12, .	3.8	111
11	Correlated Magnetic Vortex Chains in Mesoscopic Cobalt Dot Arrays. Physical Review Letters, 2002, 88, 157203.	7.8	99
12	Chiral damping of magnetic domain walls. Nature Materials, 2016, 15, 272-277.	27.5	99
13	A highly thermally stable sub-20 nm magnetic random-access memory based on perpendicular shape anisotropy. Nanoscale, 2018, 10, 12187-12195.	5.6	87
14	Macrospin description of the perpendicular polarizer-planar free-layer spin-torque oscillator. Physical Review B, 2008, 78, .	3.2	83
15	Helium Ions Put Magnetic Skyrmions on the Track. Nano Letters, 2021, 21, 2989-2996.	9.1	79
16	Amplitude and phase noise of magnetic tunnel junction oscillators. Applied Physics Letters, 2010, 97, .	3.3	74
17	Spin-orbit torque driven chiral magnetization reversal in ultrathin nanostructures. Physical Review B, 2015, 92, .	3.2	68
18	Single-shot all-optical switching of magnetization in Tb/Co multilayer-based electrodes. Scientific Reports, 2020, 10, 5211.	3.3	68

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19	Spin-transfer effect and its use in spintronic components. International Journal of Nanotechnology, 2010, 7, 591.	0.2	61
20	In-plane reversal mechanisms in circular Co dots. Journal of Applied Physics, 2002, 91, 7343.	2.5	53
21	100 ps precessional spin-transfer switching of a planar magnetic random access memory cell with perpendicular spin polarizer. Applied Physics Letters, 2009, 95, 072506.	3.3	53
22	Magnetic skyrmions in confined geometries: Effect of the magnetic field and the disorder. Journal of Magnetism and Magnetic Materials, 2018, 455, 3-8.	2.3	48
23	Injection locking of tunnel junction oscillators to a microwave current. Applied Physics Letters, 2011, 98, .	3.3	45
24	Spin-polarized current-induced excitations in a coupled magnetic layer system. Physical Review B, 2009, 79, .	3.2	44
25	Domain wall dynamics in ultrathin Pt/Co/AlOx microstrips under large combined magnetic fields. Physical Review B, 2016, 93, .	3.2	44
26	Spin torque driven excitations in a synthetic antiferromagnet. Applied Physics Letters, 2010, 96, .	3.3	42
27	Writing and reading bits on pre-patterned media. Applied Physics Letters, 2004, 84, 1519-1521.	3.3	41
28	Modeling of the perpendicular polarizer-planar free layer spin torque oscillator: Micromagnetic simulations. Physical Review B, 2008, 78, .	3.2	40
29	Integration of Tb/Co multilayers within optically switchable perpendicular magnetic tunnel junctions. AIP Advances, 2019, 9, .	1.3	36
30	Magnetic behavior of systems composed of coupled ferromagnetic bilayers with distinct anisotropy directions. Physical Review B, 2006, 73, .	3.2	35
31	Modulation bandwidth of spin torque oscillators under current modulation. Applied Physics Letters, 2014, 105, 152401.	3.3	34
32	Linewidth reduction in a spin-torque nano-oscillator caused by non-conservative current-induced coupling between magnetic layers. Applied Physics Letters, 2011, 99, .	3.3	33
33	Compact Modeling of a Magnetic Tunnel Junction Based on Spin Orbit Torque. IEEE Transactions on Magnetics, 2014, 50, 1-8.	2.1	33
34	Frequency shift keying by current modulation in a MTJ-based STNO with high data rate. Applied Physics Letters, 2017, 111, .	3.3	32
35	Magnetization processes in hard Co-rich Co/Pt films with perpendicular anisotropy. Journal of Applied Physics, 2006, 100, 103911.	2.5	31
36	Respective influence of in-plane and out-of-plane spin-transfer torques in magnetization switching of perpendicular magnetic tunnel junctions. Physical Review B, 2015, 92, .	3.2	31

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37	Room-Temperature Skyrmions at Zero Field in Exchange-Biased Ultrathin Films. <i>Physical Review Applied</i> , 2020, 13, .	3.8	29
38	Current induced domain wall dynamics in the presence of spin orbit torques. <i>Journal of Applied Physics</i> , 2014, 115, 17D502.	2.5	28
39	Multilevel Thermally Assisted Magnetoresistive Random-Access Memory Based on Exchange-Biased Vortex Configurations. <i>Physical Review Applied</i> , 2016, 6, .	3.8	27
40	Domain structures in epitaxial (101~0) Co wires. <i>IEEE Transactions on Magnetics</i> , 2001, 37, 2108-2110.	2.1	26
41	Domain wall motion in ferromagnetic systems with perpendicular magnetization. <i>Journal of Magnetism and Magnetic Materials</i> , 2009, 321, 1912-1918.	2.3	25
42	Vortex states stability in circular Co(0001) dots. <i>IEEE Transactions on Magnetics</i> , 2001, 37, 2061-2063.	2.1	24
43	Dimensionality Crossover in Magnetism: From Domain Walls (2D) to Vortices (1D). <i>Physical Review Letters</i> , 2010, 104, 127204.	7.8	24
44	Perpendicular shape anisotropy spin transfer torque magnetic random-access memory: towards sub-10~nm devices. <i>Journal Physics D: Applied Physics</i> , 2019, 52, 234001.	2.8	23
45	Effect of crystalline defects on domain wall motion under field and current in nanowires with perpendicular magnetization. <i>Physical Review B</i> , 2010, 81, .	3.2	22
46	Origin and control of exchange-bias-like phenomenon in coupled ferromagnetic [Pt/Co]/NiFe bilayers. <i>Physical Review B</i> , 2011, 84, .	3.2	22
47	A constrained finite element formulation for the Landau~Lifshitz~Gilbert equations. <i>Computational Materials Science</i> , 2008, 44, 253-258.	3.0	21
48	Spin-torque nano-oscillator based on a synthetic antiferromagnet free layer and perpendicular to plane polarizer. <i>Journal of Applied Physics</i> , 2013, 113, 113908.	2.5	21
49	Beyond first-order finite element schemes in micromagnetics. <i>Journal of Computational Physics</i> , 2014, 256, 357-366.	3.8	18
50	Impact of Joule heating on the stability phase diagrams of perpendicular magnetic tunnel junctions. <i>Physical Review B</i> , 2018, 98, .	3.2	18
51	Thermal robustness of magnetic tunnel junctions with perpendicular shape anisotropy. <i>Nanoscale</i> , 2020, 12, 6378-6384.	5.6	18
52	Enhanced modulation rates via field modulation in spin torque nano-oscillators. <i>Applied Physics Letters</i> , 2016, 108, .	3.3	17
53	Observation of asymmetric Bloch walls in epitaxial Co films with strong in-plane uniaxial anisotropy. <i>Applied Physics Letters</i> , 2000, 77, 3066-3068.	3.3	16
54	State diagram for spin current-induced magnetization dynamics using a perpendicular polarizer and a planar free layer. <i>Journal of Magnetism and Magnetic Materials</i> , 2007, 310, 2029-2031.	2.3	16

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55	Current induced domain wall dynamics in the presence of a transverse magnetic field in out-of-plane magnetized materials. <i>Journal of Applied Physics</i> , 2012, 112, .	2.5	16
56	Spin-current vortices in current-perpendicular-to-plane nanoconstricted spin valves. <i>Physical Review B</i> , 2011, 84, .	3.2	15
57	Out-of-plane precession of an in-plane magnetized free layer submitted to the spin-transfer torque of a perpendicular polarizer: An analytical perturbative approach. <i>Physical Review B</i> , 2013, 88, .	3.2	15
58	Inhomogeneous free layer in perpendicular magnetic tunnel junctions and its impact on the effective anisotropies and spin transfer torque switching efficiency. <i>Physical Review B</i> , 2017, 96, .	3.2	15
59	Linewidth of higher harmonics in a nonisochronous auto-oscillator: Application to spin-torque nano-oscillators. <i>Physical Review B</i> , 2012, 86, .	3.2	14
60	Compact model of a three-terminal MRAM device based on Spin Orbit Torque switching. , 2013, , .		14
61	Redshift and Blueshift Regimes in Spin-Transfer-Torque Nano-Oscillator Based on Synthetic Antiferromagnetic Layer. <i>IEEE Magnetics Letters</i> , 2013, 4, 3500204-3500204.	1.1	14
62	Stability phase diagram of a perpendicular magnetic tunnel junction in noncollinear geometry. <i>Physical Review B</i> , 2017, 95, .	3.2	14
63	Improved coherence of ultrafast spin-transfer-driven precessional switching with synthetic antiferromagnet perpendicular polarizer. <i>Applied Physics Letters</i> , 2011, 98, 242511.	3.3	13
64	Modulating spin transfer torque switching dynamics with two orthogonal spin-polarizers by varying the cell aspect ratio. <i>Physical Review B</i> , 2014, 90, .	3.2	11
65	Exchange Bias in Annealed [Pt/Co]/NiFe Systems. <i>IEEE Transactions on Magnetics</i> , 2006, 42, 2990-2992.	2.1	10
66	Innovative Weak Formulation for the Landauâ€“Lifshitzâ€“Gilbert Equations. <i>IEEE Transactions on Magnetics</i> , 2008, 44, 3153-3156.	2.1	10
67	Spin transfer torque nano-oscillators based on synthetic ferrimagnets: Influence of the exchange bias field and interlayer exchange coupling. <i>Journal of Applied Physics</i> , 2017, 121, .	2.5	10
68	Perpendicular shape anisotropy spin transfer torque-MRAM: determination of pillar tilt angle from 3D Stonerâ€“Wohlfarth astroid analysis. <i>Journal Physics D: Applied Physics</i> , 2019, 52, 505005.	2.8	10
69	Spintronic memristors for neuromorphic circuits based on the angular variation of tunnel magnetoresistance. <i>Nanoscale</i> , 2021, 13, 11488-11496.	5.6	10
70	Effect of nanostructuring on the magnetic properties of CoPt films. <i>Materials Science and Engineering B: Solid-State Materials for Advanced Technology</i> , 2006, 126, 207-211.	3.5	9
71	Stochastic domain-wall depinning under current in FePt spin valves and single layers. <i>Physical Review B</i> , 2011, 84, .	3.2	9
72	Non-linear mode interaction between spin torque driven and damped modes in spin torque nano-oscillators. <i>Applied Physics Letters</i> , 2015, 106, .	3.3	9

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73	All-optical spin switching probability in [Tb/Co] multilayers. <i>Scientific Reports</i> , 2021, 11, 6576.	3.3	9
74	Fast computation of magnetostatic fields by nonuniform fast Fourier transforms. <i>Applied Physics Letters</i> , 2008, 93, 132508.	3.3	8
75	Programmable Skyrmion Logic Gates Based on Skyrmion Tunneling. <i>Physical Review Applied</i> , 2022, 17, .	3.8	8
76	Magnetization dynamics of an in-plane magnetized synthetic ferrimagnetic free layer submitted to spin-transfer torques and applied field. <i>Physical Review B</i> , 2014, 89, .	3.2	7
77	Fabrication of nanotweezers and their remote actuation by magnetic fields. <i>Scientific Reports</i> , 2017, 7, 451.	3.3	7
78	Realizing an Isotropically Coercive Magnetic Layer for Memristive Applications by Analogy to Dry Friction. <i>Physical Review Applied</i> , 2019, 12, .	3.8	7
79	Size dependence of magnetic switching in perpendicularly magnetized MgO/Co/Pt pillars close to the spin reorientation transition. <i>Applied Physics Letters</i> , 2014, 104, 012404.	3.3	6
80	Injection locking at 2f of spin torque oscillators under influence of thermal noise. <i>Scientific Reports</i> , 2018, 8, 1728.	3.3	6
81	Impact of Dzyaloshinskii-Moriya interactions on the thermal stability factor of heavy metal/magnetic metal/oxide based nano-pillars. <i>Journal of Applied Physics</i> , 2019, 126, 103905.	2.5	6
82	Double magnetic tunnel junctions with a switchable assistance layer for improved spin transfer torque magnetic memory performance. <i>Nanoscale</i> , 2021, 13, 14096-14109.	5.6	6
83	Magnetotransport measurements as a tool to probe the micromagnetic configurations in epitaxial Co wires. <i>Journal of Magnetism and Magnetic Materials</i> , 2002, 240, 27-29.	2.3	5
84	Current driven magnetization dynamics of a self-polarised synthetic ferrimagnet. <i>Journal of Applied Physics</i> , 2014, 115, 083911.	2.5	5
85	Influence of interlayer coupling on the spin-torque-driven excitations in a spin-torque oscillator. <i>Physical Review B</i> , 2017, 95, .	3.2	5
86	Power and phase dynamics of injection-locked spin torque nano-oscillators under conservative and dissipative driving signals. <i>Physical Review B</i> , 2019, 100, .	3.2	5
87	Route towards efficient magnetization reversal driven by voltage control of magnetic anisotropy. <i>Scientific Reports</i> , 2021, 11, 8801.	3.3	5
88	Spin Torque Efficiency Modulation in a Double-Barrier Magnetic Tunnel Junction with a Read/Write Mode Control Layer. <i>ACS Applied Electronic Materials</i> , 2021, 3, 2607-2613.	4.3	5
89	Spin-Torque-Triggered Magnetization Reversal in Magnetic Tunnel Junctions with Perpendicular Shape Anisotropy. <i>Physical Review Applied</i> , 2021, 16, .	3.8	5
90	Magnetostatic interactions in artificial ferrimagnet based magnetic tunnel junctions. <i>Journal of Applied Physics</i> , 2001, 89, 6811-6813.	2.5	4

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91	Spin torque driven dynamics of a coupled two-layer structure: Interplay between conservative and dissipative coupling. Physical Review B, 2016, 94, .	3.2	4
92	Robust and Programmable Logic-In-Memory Devices Exploiting Skyrmion Confinement and Channeling Using Local Energy Barriers. Physical Review Applied, 2022, 18, .	3.8	4
93	Finite Element Modeling of Charge- and Spin-Currents in Magnetoresistive Pillars With Current Crowding Effects. IEEE Magnetics Letters, 2010, 1, 3000304-3000304.	1.1	3
94	Real time investigation of double magnetic tunnel junction with a switchable assistance layer for high efficiency STT-MRAM. APL Materials, 2022, 10, .	5.1	3
95	Control of Sub-Nanosecond Precessional Magnetic Switching in STT-MRAM Cells for SRAM Applications. , 2016, , .		2
96	Macrospin analysis of RF excitations within fully perpendicular magnetic tunnel junctions with second order easy-axis magnetic anisotropy contribution. Journal of Applied Physics, 2018, 124, 093902.	2.5	2
97	Static and dynamic properties of 1-kink skyrmion in Pt/Co/MgO trilayer. Physical Review B, 2021, 104, .	3.2	2
98	Sub-Nanosecond Precessional Switching in a MRAM Cell with a Perpendicular Polarizer. , 2012, , .		1
99	Micromagnetism Applied to Magnetic Nanostructures. , 2016, , 55-78.		1
100	Spin transfer torque magnetic random-access memory: Towards sub-10 nm devices. , 2018, , .		1
101	Perpendicular Magnetic Anisotropy Electric Field Modulation in Magnetron-Sputtered Pt/Co/X/MgO Ultrathin Structures With Chemically Tailored Top Interface. IEEE Transactions on Magnetics, 2021, 57, 1-10.	2.1	1
102	3D micromagnetismâ€magnetostatic coupling technique for MR reading heads modeling. COMPEL - the International Journal for Computation and Mathematics in Electrical and Electronic Engineering, 2008, 27, 215-223.	0.9	0
103	Finite element formalism for micromagnetism. COMPEL - the International Journal for Computation and Mathematics in Electrical and Electronic Engineering, 2008, 27, 266-276.	0.9	0
104	Magnetization reversal by spin orbit torque in a perpendicularly magnetized nanomagnet: A micromagnetic study. , 2015, , .		0
105	Isotropically coercive free layer integration in a magnetic tunnel junction for neuromorphic applications. , 2020, , .		0