Pranaba Muduli

List of Publications by Year
in descending order

70 papers	2,106 citations	331259 21 h-index	233125 45 g-index
70 all docs	70 docs citations	70 times ranked	1500 citing authors

#	Article	IF	Citations
1	Ferrimagnetic Synapse Devices for Fast and Energy-Efficient On-Chip Learning on Crossbar-Array-Based Neural Networks (A Device-Circuit-System Costudy). IEEE Transactions on Electron Devices, 2022, 69, 1713-1720.	1.6	3
2	Intrinsic anomalous Hall effect in thin films of topological kagome ferromagnet Fe₃Sn₂. Nanoscale, 2022, 14, 8484-8492.	2.8	7
3	Chiral droplets and current-driven motion in ferromagnets. Physical Review B, 2021, 103, .	1.1	8
4	Learning of classification tasks with an array of uniform-mode spin Hall nano-oscillators. AIP Advances, 2021, 11, .	0.6	6
5	Energy-efficient ultrafast nucleation of single and multiple antiferromagnetic skyrmions using in-plane spin polarized current. Scientific Reports, 2021, 11, 12332.	1.6	0
6	Large Damping-like Spinâ€“Orbit Torque and Improved Device Performance Utilizing Mixed-Phase Ta. ACS Applied Electronic Materials, 2021, 3, 3139-3146.	2.0	26
7	Microwave Oscillators and Detectors Based on Magnetic Tunnel Junctions. , 2021, , 3-44.		4
8	Enhanced Modulation Bandwidth of a Magnetic Tunnel Junction-Based Spin Torque Nano-Oscillator Under Strong Current Modulation. IEEE Electron Device Letters, 2021, 42, 1886-1889.	2.2	2
9	Thermal Decay of a Single NÃ©el Skyrmion via Helicity Slip in a Nanodisk. Physica Status Solidi - Rapid Research Letters, 2020, 14, 1900525.	1.2	3
10	Photo-Induced Negative Differential Transconductance in Back-Gated Layered MoSe₂/p-Ge Heterojunction Field Effect Transistors. ACS Applied Electronic Materials, 2020, 2, 1567-1573.	2.0	2
11	Direct measurement of interfacial Dzyaloshinskiiâ€“Moriya interaction at the MoS2/Ni80Fe20 interface. Applied Physics Letters, 2020, 116, .	1.5	12
12	Simultaneous enhancement of spin-torque diode sensitivity and frequency by voltage controlled magnetic anisotropy and parametric synchronization. Applied Physics Letters, 2019, 115, .	1.5	5
13	Observation of Skyrmions at Room Temperature in Co2FeAl Heusler Alloy Ultrathin Film Heterostructures. Scientific Reports, 2019, 9, 1085.	1.6	22
14	Influence of annealing on spin pumping in sputtered deposited Co/Pt bilayer thin films. Physica B: Condensed Matter, 2019, 570, 254-258.	1.3	8
15	Chiral skyrmion auto-oscillations in a ferromagnet under spin-transfer torque. Physical Review B, 2019, 99, .	1.1	18
16	Self-powered room temperature broadband infrared photodetector based on MoSe2/germanium heterojunction with 35 A/W responsivity at 1550â€‰nm. Applied Physics Letters, 2019, 114, .	1.5	41
17	Extrinsic spin-orbit coupling induced enhanced spin pumping in few-layer MoS2/Py. Journal of Magnetism and Magnetic Materials, 2019, 476, 337-341.	1.0	19
18	Direct observation of unusual interfacial Dzyaloshinskii-Moriya interaction in graphene/NiFe/Ta heterostructures. Physical Review B, 2019, 99, .	1.1	22

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19	Influence of MgO barrier quality on spin-transfer torque in magnetic tunnel junctions. Applied Physics Letters, 2018, 112, .	1.5	8
20	Tuning of Single Sideband Generation by In-Plane Field Angle in Spin Torque Nano-Oscillators. , 2018, , .		0
21	Large Spin Hall Angle in Î²-W Thin Films Grown on CoFeB without Oxygen Plasma. Spin, 2018, 08, 1850018.	0.6	24
22	Large spin current generation by the spin Hall effect in mixed crystalline phase Ta thin films. Physical Review B, 2018, 98, .	1.1	54
23	Proximity effect induced enhanced spin pumping in Py/Gd at room temperature. Applied Physics Letters, 2018, 112, .	1.5	18
24	Current Modulation of Nanoconstriction Spin-Hall Nano-Oscillators. IEEE Magnetics Letters, 2017, 8, 1-4.	0.6	19
25	Crystalline phase dependent spin current efficiency in sputtered Ta thin films. Applied Physics Letters, 2017, 110, 202402.	1.5	15
26	Time-domain stability of parametric synchronization in a spin-torque nano-oscillator based on a magnetic tunnel junction. Physical Review B, 2017, 96, .	1.1	11
27	Antidamping spin-orbit torques in epitaxial-Py(100)/Î²-Ta. Applied Physics Letters, 2017, 111, .	1.5	15
28	A high-speed single sideband generator using a magnetic tunnel junction spin torque nano-oscillator. Scientific Reports, 2017, 7, 13422.	1.6	17
29	Enhancement of spin-torque diode sensitivity in a magnetic tunnel junction by parametric synchronization. Applied Physics Letters, 2016, 108, .	1.5	22
30	Spin-Torque and Spin-Hall Nano-Oscillators. Proceedings of the IEEE, 2016, 104, 1919-1945.	16.4	276
31	Effect of Ru thickness on spin pumping in Ru/Py bilayer. Journal of Applied Physics, 2015, 117, .	1.1	19
32	Modulation rate study in spin torque oscillator based wireless communication system. , 2015, , .		0
33	Modulation Rate Study in a Spin-Torque Oscillator-Based Wireless Communication System. IEEE Transactions on Magnetics, 2015, 51, 1-4.	1.2	18
34	Mode-hopping mechanism generating colored noise in a magnetic tunnel junction based spin torque oscillator. Applied Physics Letters, 2014, 105, 132404.	1.5	20
35	Modulation-mediated unlocking of a parametrically phase-locked spin torque oscillator. Applied Physics Letters, 2014, 105, 252404.	1.5	7
36	Parametric excitation in a magnetic tunnel junction-based spin torque oscillator. Applied Physics Letters, 2014, 104, .	1.5	18

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37	Spin transfer torque generated magnetic droplet solitons (invited). Journal of Applied Physics, 2014, 115, .	1.1	47
38	Magnetic droplet solitons in orthogonal nano-contact spin torque oscillators. Physica B: Condensed Matter, 2014, 435, 84-87.	1.3	35
39	Generation linewidth of mode-hopping spin torque oscillators. Physical Review B, 2014, 89, .	1.1	28
40	Decoherence, Mode Hopping, and Mode Coupling in Spin Torque Oscillators. IEEE Transactions on Magnetics, 2013, 49, 4398-4404.	1.2	17
41	Mutually synchronized bottom-up multi-nanocontact spinâ€“torque oscillators. Nature Communications, 2013, 4, 2731.	5.8	98
42	Spin Torqueâ€“Generated Magnetic Droplet Solitons. Science, 2013, 339, 1295-1298.	6.0	237
43	Combined Wide-Narrow Double Modulation of Spin-Torque Oscillators for Improved Linewidth During Communication. IEEE Transactions on Magnetics, 2012, 48, 4077-4080.	1.2	7
44	Temperature dependence of linewidth in nanocontact based spin torque oscillators: Effect of multiple oscillatory modes. Physical Review B, 2012, 86, .	1.1	24
45	Decoherence and Mode Hopping in a Magnetic Tunnel Junction Based Spin Torque Oscillator. Physical Review Letters, 2012, 108, 207203.	2.9	51
46	Spin Torque Oscillators and RF Currentsâ€”Modulation, Locking, and Ringing. Integrated Ferroelectrics, 2011, 125, 147-154.	0.3	38
47	Modulation of Individual and Mutually Synchronized Nanocontact-Based Spin Torque Oscillators. IEEE Transactions on Magnetics, 2011, 47, 1575-1579.	1.2	30
48	Frequency modulation of spin torque oscillator pairs. Applied Physics Letters, 2011, 98, 192501.	1.5	41
49	Modulation of single and double spin torque oscillators. AIP Conference Proceedings, 2011, , .	0.3	8
50	Spin-torque oscillator linewidth narrowing under current modulation. Applied Physics Letters, 2011, 98, 192506.	1.5	42
51	Bias dependence of perpendicular spin torque and of free- and fixed-layer eigenmodes in MgO-based nanopillars. Physical Review B, 2011, 83, .	1.1	43
52	Intrinsic frequency doubling in a magnetic tunnel junctionâ€“based spin torque oscillator. Journal of Applied Physics, 2011, 110, .	1.1	28
53	Exchange-bias-like effect inLl₀(111) FePt based pseudo spin valves. Journal of Physics: Conference Series, 2010, 200, 072110.	0.3	0
54	Nonlinear frequency and amplitude modulation of a nanocontact-based spin-torque oscillator. Physical Review B, 2010, 81, .	1.1	89

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55	Experimental Evidence of Self-Localized and Propagating Spin Wave Modes in Obliquely Magnetized Current-Driven Nanocontacts. Physical Review Letters, 2010, 105, 217204.	2.9	176
56	Spin torque oscillator frequency versus magnetic field angle: The prospect of operation beyond 65 GHz. Applied Physics Letters, 2009, 94, .	1.5	158
57	Composition dependent properties of Fe3Si films grown on GaAs(113)A substrates. Journal of Applied Physics, 2009, 105, 07B104.	1.1	11
58	Study of magnetic anisotropy and magnetization reversal using the quadratic magnetooptical effect in epitaxial Co_xMn_yGe_z(111) films. Journal of Physics Condensed Matter, 2009, 21, 296005.	0.7	14
59	Tunneling magnetoresistance in spin valves exchange biased with metallic antiferromagnet La0.45Sr0.55MnO3. Journal of Applied Physics, 2009, 106, .	1.1	6
60	Strong dependence of the magnetic anisotropy on the growth temperature of () films on GaAs(113)A substrates. Journal of Magnetism and Magnetic Materials, 2009, 321, 3488-3492.	1.0	1
61	Composition dependence of magnetic anisotropy and quadratic magnetooptical effect in epitaxial films of the Heusler alloy Co2MnGe. Journal of Magnetism and Magnetic Materials, 2008, 320, L141-L143.	1.0	15
62	Spin wave excitations in Fe films grown on GaAs(113)A substrates. Journal of Magnetism and Magnetic Materials, 2008, 320, 2835-2838.	1.0	1
63	Magnetic anisotropy in Heusler alloy Fe3Si films on GaAs(113)A. Journal of Magnetism and Magnetic Materials, 2007, 310, 2228-2230.	1.0	10
64	Planar Hall Effect in Epitaxial Fe Layers on GaAs(001) and GaAs(113)A Substrates. Journal of Superconductivity and Novel Magnetism, 2006, 18, 309-314.	0.5	4
65	Investigation of magnetic anisotropy and magnetization reversal by planar Hall effect in Fe3Si and Fe films grown on GaAs(113)A substrates. Journal of Physics Condensed Matter, 2006, 18, 9453-9462.	0.7	5
66	Epitaxial films stabilized on GaAs(113)A substrates. Journal of Crystal Growth, 2005, 285, 514-520.	0.7	13
67	Magnetic anisotropy of Fe films on GaAs(113)A substrates. Applied Physics A: Materials Science and Processing, 2005, 81, 901-906.	1.1	10
68	Evolution of magnetic anisotropy and spin-reorientation transition in Fe films grown on GaAs(113)A substrates by molecular-beam epitaxy. Journal of Applied Physics, 2005, 97, 123904.	1.1	15
69	Antisymmetric contribution to the planar Hall effect ofFe3Sifilms grown onGaAs(113)Asubstrates. Physical Review B, 2005, 72, .	1.1	35
70	Magnetic anisotropy of ultrathin epitaxial Fe films on As-terminated GaAs(001)-(2Ã—1) surfaces. , 0, , .		0