

Rachid Sbiaa

List of Publications by Year in descending order

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131
papers

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citations

236833

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133
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133
docs citations

133
times ranked

2596
citing authors

#	ARTICLE	IF	CITATIONS
1	Spintronics based random access memory: a review. <i>Materials Today</i> , 2017, 20, 530-548.	8.3	689
2	Materials with perpendicular magnetic anisotropy for magnetic random access memory. <i>Physica Status Solidi - Rapid Research Letters</i> , 2011, 5, 413-419.	1.2	208
3	Annealing effects on CoFeB-MgO magnetic tunnel junctions with perpendicular anisotropy. <i>Journal of Applied Physics</i> , 2011, 110, .	1.1	86
4	Reduction of switching current by spin transfer torque effect in perpendicular anisotropy magnetoresistive devices (invited). <i>Journal of Applied Physics</i> , 2011, 109, 07C707.	1.1	75
5	Effects of Ta seed layer and annealing on magnetoresistance in CoFe/Pd-based pseudo-spin-valves with perpendicular anisotropy. <i>Applied Physics Letters</i> , 2007, 91, .	1.5	57
6	Domain wall memory: Physics, materials, and devices. <i>Physics Reports</i> , 2022, 958, 1-35.	10.3	56
7	Patterned Media Towards Nano-bit Magnetic Recording: Fabrication and Challenges. <i>Recent Patents on Nanotechnology</i> , 2007, 1, 29-40.	0.7	55
8	Spin transfer switching enhancement in perpendicular anisotropy magnetic tunnel junctions with a canted in-plane spin polarizer. <i>Journal of Applied Physics</i> , 2009, 105, .	1.1	54
9	Thick CoFeB with perpendicular magnetic anisotropy in CoFeB-MgO based magnetic tunnel junction. <i>AIP Advances</i> , 2012, 2, .	0.6	48
10	Spin transfer torque switching for multi-bit per cell magnetic memory with perpendicular anisotropy. <i>Applied Physics Letters</i> , 2011, 99, 092506.	1.5	46
11	Electric field effects in low resistance CoFeB-MgO magnetic tunnel junctions with perpendicular anisotropy. <i>Applied Physics Letters</i> , 2012, 100, .	1.5	46
12	Recent Developments in Spin Transfer Torque MRAM. <i>Physica Status Solidi - Rapid Research Letters</i> , 2017, 11, 1700163.	1.2	45
13	Staggered Magnetic Nanowire Devices for Effective Domain-Wall Pinning in Racetrack Memory. <i>Physical Review Applied</i> , 2019, 11, .	1.5	44
14	Effect of magnetostatic energy on domain structure and magnetization reversal in (Co/Pd) multilayers. <i>Journal of Applied Physics</i> , 2010, 107, .	1.1	42
15	Geometrically pinned magnetic domain wall for multi-bit per cell storage memory. <i>Scientific Reports</i> , 2016, 6, 28590.	1.6	39
16	Reduction in critical current for spin transfer switching in perpendicular anisotropy spin valves using an in-plane spin polarizer. <i>Applied Physics Letters</i> , 2009, 94, .	1.5	38
17	Low current density induced spin-transfer torque switching in CoFe/MgO magnetic tunnel junctions with perpendicular anisotropy. <i>Journal Physics D: Applied Physics</i> , 2011, 44, 405001.	1.3	32
18	Antiferromagnetically coupled patterned media. <i>Journal of Applied Physics</i> , 2009, 105, .	1.1	31

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19	Patterned media with composite structure for writability at high areal recording density. Journal of Applied Physics, 2009, 105, .	1.1	29
20	Magnetoresistance and Switching Properties of Co ϵ Fe/Pd-Based Perpendicular Anisotropy Single- and Dual-Spin Valves. IEEE Transactions on Magnetics, 2008, 44, 2612-2615.	1.2	28
21	Effect of film texture on magnetization reversal and switching field in continuous and patterned (Co/Pd) multilayers. Journal of Applied Physics, 2009, 106, 023906.	1.1	28
22	Multi-level domain wall memory in constricted magnetic nanowires. Applied Physics A: Materials Science and Processing, 2014, 114, 1347-1351.	1.1	28
23	Nanoscale Compositional Modification in Co/Pd Multilayers for Controllable Domain Wall Pinning in Racetrack Memory. Physica Status Solidi - Rapid Research Letters, 2018, 12, 1800197.	1.2	28
24	Ce-substituted YIG films grown by pulsed laser deposition for magneto-optic waveguide devices. IEEE Transactions on Magnetics, 1999, 35, 3163-3165.	1.2	26
25	Antiferromagnetically Coupled Patterned Media and Control of Switching Field Distribution. IEEE Transactions on Magnetics, 2010, 46, 1787-1790.	1.2	25
26	Annealing temperature window for tunneling magnetoresistance and spin torque switching in CoFeB/MgO/CoFeB perpendicular magnetic tunnel junctions. Journal of Applied Physics, 2011, 110, .	1.1	23
27	Magnetization reorientation in antiferromagnetically coupled Co films and (Co/Pd) multilayers. Applied Physics Letters, 2009, 95, .	1.5	21
28	Path to achieve sub-10-nm half-pitch using electron beam lithography. Journal of Vacuum Science and Technology B: Nanotechnology and Microelectronics, 2011, 29, 011035.	0.6	19
29	Domain wall oscillation in magnetic nanowire with a geometrically confined region. Journal of Magnetism and Magnetic Materials, 2018, 456, 324-328.	1.0	19
30	Thermal stability and the magnetization process in CoCrPt ϵ SiO ₂ perpendicular recording media. Journal of Magnetism and Magnetic Materials, 2008, 320, 3041-3045.	1.0	18
31	Controlled spin-torque driven domain wall motion using staggered magnetic wires. Applied Physics Letters, 2020, 116, .	1.5	18
32	Magnetostatic interaction effects in switching field distribution of conventional and staggered bit-patterned media. Journal Physics D: Applied Physics, 2011, 44, 265005.	1.3	17
33	Size Dependence Effect in MgO-Based CoFeB Tunnel Junctions with Perpendicular Magnetic Anisotropy. Japanese Journal of Applied Physics, 2012, 51, 013101.	0.8	17
34	Frequency selection for magnetization switching in spin torque magnetic memory. Journal Physics D: Applied Physics, 2015, 48, 195001.	1.3	17
35	Control of magnetization reversal and domain structure in (Co/Ni) multilayers. Journal of Magnetism and Magnetic Materials, 2019, 489, 165460.	1.0	17
36	Size Dependence Effect in MgO-Based CoFeB Tunnel Junctions with Perpendicular Magnetic Anisotropy. Japanese Journal of Applied Physics, 2012, 51, 013101.	0.8	17

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37	Ferromagnetic resonance measurements of (Co/Ni/Co/Pt) multilayers with perpendicular magnetic anisotropy. Journal Physics D: Applied Physics, 2016, 49, 425002.	1.3	16
38	Domain Wall Motion Control for Racetrack Memory Applications. IEEE Transactions on Magnetics, 2019, 55, 1-8.	1.2	16
39	Domain wall oscillations induced by spin torque in magnetic nanowires. Journal of Applied Physics, 2015, 117, 053907.	1.1	15
40	Constricted nanowire with stabilized magnetic domain wall. Journal of Magnetism and Magnetic Materials, 2016, 411, 113-115.	1.0	15
41	Ferro- and antiferromagnetic exchange coupling in magneto-optical bilayers with planar and perpendicular anisotropy. IEEE Transactions on Magnetics, 1995, 31, 3274-3276.	1.2	14
42	Domain structures and magnetization reversal in Co/Pd and CoFeB/Pd multilayers. Journal of Applied Physics, 2015, 117, .	1.1	14
43	Enhanced resolution in magnetic force microscopy using tips with perpendicular magnetic anisotropy. Journal of Applied Physics, 2011, 109, .	1.1	13
44	Present and future of magneto-optical recording materials and technology. Journal of Alloys and Compounds, 1998, 275-277, 677-684.	2.8	12
45	Nanoimprint mold fabrication and duplication for embedded servo and discrete track recording media. Journal of Vacuum Science & Technology B, 2009, 27, 2259.	1.3	12
46	Biosynthesis of BiVO ₄ nanorods using Callistemon viminalis extracts: Photocatalytic degradation of methylene blue. Materials Today: Proceedings, 2021, 36, 328-335.	0.9	12
47	Effect of Different Seed Layers on Magnetic and Transport Properties of Perpendicular Anisotropic Spin Valves. IEEE Transactions on Magnetics, 2010, 46, 1933-1936.	1.2	11
48	Spin transfer torque induced domain wall oscillations in ferromagnetic nanowire with a nanoscale Dzyaloshinskii-Moriya interaction region. Journal of Magnetism and Magnetic Materials, 2020, 507, 166807.	1.0	11
49	Characterization of high-density bit-patterned media using ultra-high resolution magnetic force microscopy. Physica Status Solidi - Rapid Research Letters, 2012, 6, 141-143.	1.2	10
50	[Co/Ni] multilayers with robust post-annealing performance for spintronics device applications. Journal Physics D: Applied Physics, 2018, 51, 465002.	1.3	10
51	Magnetization reversal of antiferromagnetically coupled (Co/Ni) and (Co/Pt) multilayers. Journal of Magnetism and Magnetic Materials, 2019, 479, 27-31.	1.0	10
52	Relaxation time and thermal stability in magneto-optical recording media. IEEE Transactions on Magnetics, 2000, 36, 2279-2281.	1.2	9
53	Multistate storage in dual spin valves with perpendicular magnetic anisotropy. Journal of Applied Physics, 2009, 105, 103911.	1.1	9
54	Anomalous Hall effect measurements on capped bit-patterned media. Applied Physics Letters, 2011, 99, .	1.5	9

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55	Perspectives for 10 Terabits/in ² ; Magnetic Recording. Journal of Nanoscience and Nanotechnology, 2011, 11, 2704-2709.	0.9	9
56	Tailoring the growth of L1 ₀ -FePt for spintronics applications. Physica Status Solidi - Rapid Research Letters, 2011, 5, 426-428.	1.2	9
57	Different mechanisms of spin reorientation in exchange coupled double rare earth-transition metal layers with in-plane and perpendicular magnetic anisotropy. Journal of Applied Physics, 2000, 87, 6893-6895.	1.1	8
58	Antiferromagnetic iridium manganese based intermediate layers for perpendicular magnetic recording media. Applied Physics Letters, 2008, 93, 072503.	1.5	8
59	Sub-50-nm track pitch mold using electron beam lithography for discrete track recording media. Journal of Vacuum Science & Technology B, 2008, 26, 1666.	1.3	8
60	Multistate Magnetic Domain Wall Devices for Neuromorphic Computing. Physica Status Solidi - Rapid Research Letters, 2021, 15, 2100125.	1.2	8
61	High exchange bias field induced in ferrimagnetic bilayers of amorphous rare earth-transition-metal alloys. Applied Physics Letters, 1999, 75, 256-258.	1.5	7
62	Magnetic anisotropy and spin reorientation effects in Gd/Fe and Gd/(FeCo) multilayers for high density magneto-optical recording. Journal of Applied Physics, 2000, 87, 6899-6901.	1.1	7
63	Magnetoresistance and thermal stability enhancement in FeCr-based spin valves. Applied Physics Letters, 2004, 84, 5139-5141.	1.5	7
64	Material and Layer Design to Overcome Writing Challenges in Bit-Patterned Media. IEEE Transactions on Magnetics, 2009, 45, 828-832.	1.2	7
65	Characterization of Coupled Novel Magnetic Multilayers With Anomalous Hall Effect. IEEE Transactions on Magnetics, 2010, 46, 2409-2412.	1.2	7
66	Magnetization switching by spin-torque effect in off-aligned structure with perpendicular anisotropy. Journal Physics D: Applied Physics, 2013, 46, 395001.	1.3	7
67	Temperature effect on exchange coupling and magnetization reversal in antiferromagnetically coupled (Co/Pd) multilayers. Journal of Applied Physics, 2015, 118, .	1.1	7
68	Thickness dependence of magnetization dynamics of an in-plane anisotropy ferromagnet under a crossed spin torque polarizer. Journal of Magnetism and Magnetic Materials, 2017, 439, 95-100.	1.0	7
69	Tailoring the structural and magnetic properties of masked CoPt thin films using ion implantation. AIP Advances, 2018, 8, .	0.6	7
70	Magnetization processes in exchange-coupled double-layer films with in-plane and perpendicular anisotropy. Journal of Magnetism and Magnetic Materials, 1998, 183, 247-253.	1.0	6
71	High frequency switching in bit-patterned media: A method to overcome synchronization issue. Applied Physics Letters, 2008, 92, 012510.	1.5	6
72	Anomalous Hall effect measurement of novel magnetic multilayers. Journal of Applied Physics, 2009, 106, 093904.	1.1	6

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73	First-principles calculations of the magnetic anisotropic constants of Co/Pd multilayers: Effect of stacking faults. <i>Europhysics Letters</i> , 2012, 99, 17001.	0.7	6
74	Theoretical investigation of temperature induced phase transition in exchange coupled double layers. <i>Journal of Applied Physics</i> , 1997, 81, 5236-5238.	1.1	5
75	Magnetization reorientation in ferrimagnetic Gd _{27.5} Fe ₅₉ Co _{13.5} /Dy ₂₈ Fe ₆₀ Co ₁₂ double layers. <i>Physical Review B</i> , 1998, 57, 7887-7891.	1.1	5
76	CoCrPt-oxide based perpendicular recording media with hybrid soft magnetic underlayers. <i>Journal of Applied Physics</i> , 2008, 104, 103905.	1.1	5
77	Planarization of Patterned Recording Media. <i>IEEE Transactions on Magnetics</i> , 2010, 46, 758-763.	1.2	5
78	Magnetic interaction in perpendicular recording media with synthetic nucleation layers. <i>Applied Physics Letters</i> , 2011, 98, 152504.	1.5	5
79	Reverse Nanoimprint Lithography for Fabrication of Nanostructures. <i>Nanoscience and Nanotechnology Letters</i> , 2012, 4, 835-838.	0.4	5
80	Magnetic properties of antiferromagnetically coupled antidots of Co/Pd multilayers. <i>Journal of Applied Physics</i> , 2012, 111, 07B916.	1.1	5
81	Magnetization reversal driven by a spin torque oscillator. <i>Applied Physics Letters</i> , 2014, 105, .	1.5	5
82	Domain Wall Dynamics in Stepped Magnetic Nanowire with Perpendicular Magnetic Anisotropy. <i>Physica Status Solidi (A) Applications and Materials Science</i> , 2020, 217, 2000225.	0.8	5
83	Stabilizing magnetic skyrmions in constricted nanowires. <i>Scientific Reports</i> , 2022, 12, .	1.6	5
84	Tuning of perpendicular exchange bias for magnetic memory applications. <i>Physica Status Solidi (A) Applications and Materials Science</i> , 2013, 210, 391-394.	0.8	4
85	Spin reorientation via antiferromagnetic coupling. <i>Journal of Applied Physics</i> , 2014, 115, 17C103.	1.1	4
86	Magnetic domain structure and magnetization reversal in (Co/Ni) and (Co/Pd) multilayers. <i>Journal of Magnetism and Magnetic Materials</i> , 2020, 503, 166579.	1.0	4
87	Spin-transfer induced noise in nanoscale magnetoresistive sensors. <i>Journal of Applied Physics</i> , 2007, 101, 073911.	1.1	3
88	Achieving High Aspect Ratio of Track Length to Width in Molds for Discrete Track Recording Media. <i>Research Letters in Nanotechnology</i> , 2008, 2008, 1-4.	0.3	3
89	Intermediate layer thickness dependence on switching field distribution in perpendicular recording media. <i>Journal of Magnetism and Magnetic Materials</i> , 2009, 321, 2682-2684.	1.0	3
90	Ion Beam Modification of Exchange Coupling to Fabricate Patterned Media. <i>Journal of Nanoscience and Nanotechnology</i> , 2011, 11, 2611-2614.	0.9	3

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91	MRAM Device Incorporating Single-Layer Switching via Rashba-Induced Spin Torque. IEEE Transactions on Magnetics, 2011, 47, 3868-3871.	1.2	3
92	Variable angle magnetometry for exchange-coupled multilayers with in-plane and perpendicular anisotropy. Journal of Applied Physics, 2011, 110, 123905.	1.1	3
93	Magnetic properties of antidots in conventional and spin-reoriented antiferromagnetically coupled layers. Journal of Applied Physics, 2012, 111, 07B921.	1.1	3
94	Magnetic and First-Order Reversal Curve Investigations of Antiferromagnetically Coupled Nanostructures of Co/Pd Multilayers. IEEE Transactions on Magnetics, 2012, 48, 3410-3413.	1.2	3
95	Effect of different compositions of CoFeB spin polarizer on magnetoresistance and switching property of Co/Pd multilayers with perpendicular magnetic anisotropy. Journal of Applied Physics, 2012, 111, 07D306.	1.1	3
96	Magnetization reversal dependence on magnetic properties of a spin torque oscillator with in-plane anisotropy free layer and orthogonal polarizer. Current Applied Physics, 2014, 14, 1521-1525.	1.1	3
97	Ni thickness influence on magnetic properties (Co/Ni/Co/Pt) multilayers with perpendicular magnetic anisotropy. Journal of Magnetism and Magnetic Materials, 2017, 441, 585-589.	1.0	3
98	Theoretical investigation of magnetization configuration and reversal processes in exchange-coupled multilayers. IEEE Transactions on Magnetics, 1996, 32, 4073-4075.	1.2	2
99	T-induced changes of magnetization profiles and reversal in exchange-coupled trilayers. Journal of Applied Physics, 1999, 85, 5974-5976.	1.1	2
100	Air gap dependence of write and read characteristics in magneto-optical recording with solid immersion lens. IEEE Transactions on Magnetics, 2001, 37, 1409-1411.	1.2	2
101	Magnetization process and thermal stability in longitudinal magnetic recording media with a stabilizing layer. IEEE Transactions on Magnetics, 2001, 37, 1481-1483.	1.2	2
102	Effect of Short Annealing Times on the Magnetoelectronic Properties of Co/Pd-Based Pseudo-Spin-Valves. Journal of Nanoscience and Nanotechnology, 2011, 11, 2661-2664.	0.9	2
103	Origin of anomalously high exchange field in antiferromagnetically coupled magnetic structures: Spin reorientation versus interface anisotropy. Journal of Applied Physics, 2011, 110, 093915.	1.1	2
104	Influence of Spin Polarizer on the Magnetoresistance, Switching Property, and Interlayer Interactions in Co/Pd Single Spin Valves. IEEE Transactions on Magnetics, 2012, 48, 3434-3437.	1.2	2
105	High speed in spin-torque-based magnetic memory using magnetic nanocontacts. Physica Status Solidi - Rapid Research Letters, 2013, 7, 332-335.	1.2	2
106	Magnetic Properties and Magnetization Reversal of Thin Films and Nanodots Consisting of Exchange-Coupled Composite Co/Pd Multi-Layer and Co Layer With Orthogonal Anisotropies. IEEE Transactions on Magnetics, 2015, 51, 1-9.	1.2	2
107	Holographonics. Materials Today, 2016, 19, 368-369.	8.3	2
108	Advanced Magnetic Force Microscopy for High Resolution Magnetic Imaging. Nanoscience and Nanotechnology Letters, 2012, 4, 628-633.	0.4	2

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109	SEQUENTIAL TEMPERATURE-INDUCED PHASE TRANSITIONS FOR DYNAMIC DOMAIN EXPANSION IN EXCHANGE-COUPLED MULTILAYERS. Journal of the Magnetism Society of Japan, 1998, 22, S2_121-124.	0.4	2
110	Near Field Optics-Solid Immersion Lens with Magnetic Field Modulation for Magneto-Optical Recording. Transactions of the Magnetism Society of Japan, 2002, 2, 345-347.	0.5	2
111	Magnetic reorientation for high-density magneto-optical recording. Journal of Magnetism and Magnetic Materials, 1999, 195, 520-522.	1.0	1
112	Micromagnetic study of readout process in magneto-optical multilayers. Journal of Applied Physics, 2000, 87, 6896-6898.	1.1	1
113	Antiferromagnetic iridium-manganese intermediate layers for perpendicular recording media (invited). Journal of Applied Physics, 2009, 105, 07B738.	1.1	1
114	Patterned media with composite in-plane and perpendicular anisotropy recording layers. Journal of Magnetism and Magnetic Materials, 2009, 321, 3963-3966.	1.0	1
115	Novel planarizing scheme for patterned media. Journal of Vacuum Science and Technology B: Nanotechnology and Microelectronics, 2010, 28, 806-808.	0.6	1
116	Magnetostatic Interactions in Antiferromagnetically Coupled Patterned Media. Journal of Nanoscience and Nanotechnology, 2011, 11, 2555-2559.	0.9	1
117	Control of Magnetic Exchange in Coupled Bilayer Films for High Density Readout Process.. Journal of the Magnetism Society of Japan, 2001, 25, 391-394.	0.4	1
118	Issues in Determining Activation Volume in Magnetic Recording Media. Transactions of the Magnetism Society of Japan, 2002, 2, 104-109.	0.5	1
119	Improved spin dynamics in soft magnetic films from 2D arrays of stripes and dots patterned by laser ablation. European Physical Journal Special Topics, 1998, 08, Pr2-241-Pr2-244.	0.2	1
120	Magnetic and Magneto-Optic Properties of Pulsed Laser Deposited $Ce_{x}Y_{3-x}Fe_{5}O_{12}$ Films. Materials Research Society Symposia Proceedings, 2000, 623, 89.	0.1	0
121	High density mo recording using solid immersion lens (SIL) with magnetic field modulation (MFM). , 0, , .		0
122	High density magneto-optical recording using solid immersion lens with magnetic field modulation. IEEE Transactions on Magnetics, 2000, 36, 2276-2278.	1.2	0
123	<title>Thermal stability in magneto-optical recording media: analysis of magnetization decay</title> . , 2001, , .		0
124	Corrigendum to "Intermediate layer thickness dependence on switching field distribution in perpendicular recording media" [J. Magn. Magn. Mater. 321 (2009) 2682-2684]. Journal of Magnetism and Magnetic Materials, 2009, 321, 3652.	1.0	0
125	Focus on Spintronics and Spin Physics. Physica Status Solidi - Rapid Research Letters, 2011, 5, A117-A118.	1.2	0
126	CoFeB spin polarizer layer composition effect on magnetization and magneto-transport properties of Co/Pd-based multilayers in pseudo-spin valve structures. Journal of Applied Physics, 2013, 113, 023909.	1.1	0

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127	Multi-bit per cell magnetic random access memory based on spin torque oscillator. AIP Conference Proceedings, 2017, , .	0.3	0
128	Magnetization reversal and domains structures in (Co/Ni/Co/Pt) multilayers. Current Applied Physics, 2022, 33, 12-19.	1.1	0
129	Thermal Stability in Magnetic and Magneto-Optical Recording Media. , 2001, , 201-223.		0
130	TEMPERATURE-INDUCED MAGNETIZATION STATES AND PROCESSES IN EXCHANGE-COUPLED DOUBLE LAYERS WITH INTERFACIAL WALLS. Journal of the Magnetics Society of Japan, 1998, 22, S2_93-96.	0.4	0
131	Ferromagnetic resonance measurements of (Co/Ni/Co/Pt) multilayers with perpendicular magnetic anisotropy. Journal Physics D: Applied Physics, 2016, 49, .	1.3	0