Amalio FernÃ¡ndez-Pacheco

List of Publications by Year
in descending order

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78 papers	2,973 citations	159585 30 h-index	161849 54 g-index
83 all docs	83 docs citations	83 times ranked	2897 citing authors

#	Article	IF	Citations
1	Three-dimensional nanomagnetism. Nature Communications, 2017, 8, 15756.	12.8	398
2	Magnetic ratchet for three-dimensional spintronic memory and logic. Nature, 2013, 493, 647-650.	27.8	180
3	Three dimensional magnetic nanowires grown by focused electron-beam induced deposition. Scientific Reports, 2013, 3, 1492.	3.3	148
4	Magnetotransport properties of high-quality cobalt nanowires grown by focused-electron-beam-induced deposition. Journal Physics D: Applied Physics, 2009, 42, 055005.	2.8	145
5	Review of magnetic nanostructures grown by focused electron beam induced deposition (FEBID). Journal Physics D: Applied Physics, 2016, 49, 243003.	2.8	124
6	Direct observation of melting in a two-dimensional superconducting vortex lattice. Nature Physics, 2009, 5, 651-655.	16.7	115
7	Fast domain wall motion in magnetic combÂstructures. Nature Materials, 2010, 9, 980-983.	27.5	105
8	Symmetry-breaking interlayer Dzyaloshinskiiâ€“Moriya interactions in synthetic antiferromagnets. Nature Materials, 2019, 18, 679-684.	27.5	100
9	Launching a new dimension with 3D magnetic nanostructures. APL Materials, 2020, 8, .	5.1	88
10	Origin of the Difference in the Resistivity of As-Grown Focused-Ion- and Focused-Electron-Beam-Induced Pt Nanodeposits. Journal of Nanomaterials, 2009, 2009, 1-11.	2.7	83
11	Nanoscale superconducting properties of amorphous W-based deposits grown with a focused-ion-beam. New Journal of Physics, 2008, 10, 093005.	2.9	66
12	Layer-by-Layer Growth of Complex-Shaped Three-Dimensional Nanostructures with Focused Electron Beams. Nano Letters, 2020, 20, 184-191.	9.1	65
13	3D Magnetic Induction Maps of Nanoscale Materials Revealed by Electron Holographic Tomography. Chemistry of Materials, 2015, 27, 6771-6778.	6.7	64
14	Domain wall conduit behavior in cobalt nanowires grown by focused electron beam induced deposition. Applied Physics Letters, 2009, 94, 192509.	3.3	63
15	Writing 3D Nanomagnets Using Focused Electron Beams. Materials, 2020, 13, 3774.	2.9	61
16	Magnetization reversal in individual cobalt micro- and nanowires grown by focused-electron-beam-induced-deposition. Nanotechnology, 2009, 20, 475704.	2.6	60
17	Artificial Double-Helix for Geometrical Control of Magnetic Chirality. ACS Nano, 2020, 14, 8084-8092.	14.6	58
18	Universal scaling of the anomalous Hall effect in<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mi>Fe</mml:mi><mml:mn>3</mml:mn></mml:msub><mml:msub><mml:mi mathvariant="normal">O</mml:mi><mml:mn>4</mml:mn></mml:msub></mml:mrow></mml:math>epitaxial thin films. Physical Review B, 2008, 77, .	3.2	57

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19	Metal-insulator transition in Pt-C nanowires grown by focused-ion-beam-induced deposition. Physical Review B, 2009, 79, .	3.2	57
20	Fabrication, Detection, and Operation of a Three-Dimensional Nanomagnetic Conduit. ACS Nano, 2017, 11, 11066-11073.	14.6	54
21	High-Fidelity 3D-Nanoprinting via Focused Electron Beams: Computer-Aided Design (3BID). ACS Applied Nano Materials, 2018, 1, 1028-1041.	5.0	54
22	Tuning the interlayer exchange coupling between single perpendicularly magnetized CoFeB layers. Applied Physics Letters, 2012, 100, .	3.3	51
23	Toward Flexible Spintronics: Perpendicularly Magnetized Synthetic Antiferromagnetic Thin Films and Nanowires on Polyimide Substrates. Advanced Functional Materials, 2016, 26, 4704-4711.	14.9	50
24	Nanoscale chemical and structural study of Co-based FEBID structures by STEM-EELS and HRTEM. Nanoscale Research Letters, 2011, 6, 592.	5.7	48
25	Hysteresis loops of individual Co nanostripes measured by magnetic force microscopy. Nanoscale Research Letters, 2011, 6, 407.	5.7	47
26	Tuning shape, composition and magnetization of 3D cobalt nanowires grown by focused electron beam induced deposition (FEBID). Journal Physics D: Applied Physics, 2017, 50, 18LT01.	2.8	43
27	Complex free-space magnetic field textures induced by three-dimensional magnetic nanostructures. Nature Nanotechnology, 2022, 17, 136-142.	31.5	39
28	Present and future applications of magnetic nanostructures grown by FEBID. Applied Physics A: Materials Science and Processing, 2014, 117, 1645-1658.	2.3	34
29	Magnetotransport properties of Fe3O4 thin films for applications in spin electronics. Microelectronic Engineering, 2007, 84, 1660-1664.	2.4	32
30	Giant planar Hall effect in epitaxial<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow><mml:mtext>Fe</mml:mtext></mml:mrow><mml:mn>3</mml:mn> films and its temperature dependence. Physical Review B, 2008, 78, .	3.2	32
31	Dynamic Oscillations of Coupled Domain Walls. Physical Review Letters, 2012, 108, 187202.	7.8	29
32	High-field Hall effect and magnetoresistance in Fe3O4 epitaxial thin films up to 30 Tesla. Applied Physics Letters, 2009, 95, .	3.3	26
33	Fabrication of Scaffold-Based 3D Magnetic Nanowires for Domain Wall Applications. Nanomaterials, 2018, 8, 483.	4.1	26
34	Giant anomalous Hall effect in Fe-based microwires grown by focused-electron-beam-induced deposition. Journal Physics D: Applied Physics, 2012, 45, 035001.	2.8	24
35	Systematic tuning of segmented magnetic nanowires into three-dimensional arrays of â€˜bitsâ€™. RSC Advances, 2017, 7, 37627-37635.	3.6	23
36	High Conductivity in Hydrothermally Grown AgCuO₂ Single Crystals Verified Using Focused-Ion-Beam-Deposited Nanocontacts. Inorganic Chemistry, 2010, 49, 10977-10983.	4.0	22

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37	Controllable nucleation and propagation of topological magnetic solitons in CoFeB/Ru ferrimagnetic superlattices. Physical Review B, 2012, 86, .	3.2	20
38	Multi-bit operations in vertical spintronic shift registers. Nanotechnology, 2014, 25, 105201.	2.6	20
39	Domain Wall Automotion in Three-Dimensional Magnetic Helical Interconnectors. ACS Nano, 2022, 16, 8860-8868.	14.6	20
40	Modelling focused electron beam induced deposition beyond Langmuir adsorption. Beilstein Journal of Nanotechnology, 2017, 8, 2151-2161.	2.8	18
41	DOMAIN IMAGING DURING SOLITON PROPAGATION IN A 3D MAGNETIC RATCHET. Spin, 2013, 03, 1340013.	1.3	17
42	Non-Planar Geometrical Effects on the Magnetoelectrical Signal in a Three-Dimensional Nanomagnetic Circuit. ACS Nano, 2021, 15, 6765-6773.	14.6	16
43	Modification of domain-wall propagation in Co nanowires via Ga+ irradiation. European Physical Journal B, 2013, 86, 1.	1.5	15
44	Improvement of domain wall conduit properties in cobalt nanowires by global gallium irradiation. Nanotechnology, 2013, 24, 345703.	2.6	14
45	Controlling nucleation in perpendicularly magnetized nanowires through in-plane shape. Applied Physics Letters, 2015, 107, 092405.	3.3	14
46	Transport properties of superconducting amorphous W-based nanowires fabricated by focused-ion-beam-induced-deposition for applications in Nanotechnology. Materials Research Society Symposia Proceedings, 2009, 1180, 1.	0.1	13
47	Exploring the conduction in atomic-sized metallic constrictions created by controlled ion etching. Nanotechnology, 2008, 19, 415302.	2.6	12
48	Dynamic selective switching in antiferromagnetically-coupled bilayers close to the spin reorientation transition. Applied Physics Letters, 2014, 105, .	3.3	10
49	A composite element bit design for magnetically encoded microcarriers for future combinatorial chemistry applications. RSC Advances, 2015, 5, 10211-10218.	3.6	10
50	Micromagnetic modeling of magnetic domain walls in curved cylindrical nanotubes and nanowires. Applied Physics Letters, 2021, 118, .	3.3	10
51	Fabrication of a 3D Nanomagnetic Circuit with Multi-Layered Materials for Applications in Spintronics. Micromachines, 2021, 12, 859.	2.9	10
52	Correlation between the magnetic imaging of cobalt nanoconstrictions and their magnetoresistance response. Nanotechnology, 2012, 23, 105703.	2.6	9
53	Soliton propagation in micron-sized magnetic ratchet elements. Applied Physics Letters, 2014, 104, .	3.3	9
54	Magnetic State of Multilayered Synthetic Antiferromagnets during Soliton Nucleation and Propagation for Vertical Data Transfer. Advanced Materials Interfaces, 2016, 3, 1600097.	3.7	8

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55	Magnetic domain wall induced, localized nanowire reversal. Applied Physics Letters, 2012, 101, 062415.	3.3	7
56	Fe₃O₄ Epitaxial Thin Films and Heterostructures: Magnetotransport and Magnetic Properties. Advances in Science and Technology, 2010, 67, 82-91.	0.2	6
57	Creation of stable nanoconstrictions in metallic thin films via progressive narrowing by focused-ion-beam technique and in situ control of resistance. Microelectronic Engineering, 2009, 86, 639-641.	2.4	5
58	Domain wall interactions at a cross-shaped vertex. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2012, 370, 5794-5805.	3.4	5
59	A robust soliton ratchet using combined antiferromagnetic and ferromagnetic interlayer couplings. Applied Physics Letters, 2015, 106, 092404.	3.3	5
60	Controlling the canted state in antiferromagnetically coupled magnetic bilayers close to the spin reorientation transition. Applied Physics Letters, 2017, 110, 102405.	3.3	5
61	Studies of Nanoconstrictions, Nanowires and Feâ‚ƒOâ„, Thin Films. , 2011, , .		4
62	Magnetic properties and interlayer coupling of epitaxial Co/Cu films on Si. Journal of Applied Physics, 2014, 116, 063906.	2.5	4
63	Systematic layer-by-layer characterization of multilayers for three-dimensional data storage and logic. Nanotechnology, 2016, 27, 155203.	2.6	4
64	Nanoscale Electrical Contacts Grown by Focused Ion Beam (FIB)-Induced Deposition. Lecture Notes in Nanoscale Science and Technology, 2013, , 95-122.	0.8	3
65	Vertical shift register using dipolar interaction in magnetic multilayers. Journal of Applied Physics, 2015, 118, 233905.	2.5	2
66	Sputter Grown Fe and Fe/Cr Multilayers With Fourfold Magnetic Anisotropy on GaAs. IEEE Transactions on Magnetics, 2018, 54, 1-5.	2.1	2
67	Tunneling and anisotropic-tunneling magnetoresistance in iron nanoconstrictions fabricated by focused-ion-beam. Materials Research Society Symposia Proceedings, 2009, 1181, 1.	0.1	1
68	Zigzag Domain Wall Mediated Reversal in Antiferromagnetically Coupled Layers. IEEE Magnetics Letters, 2017, 8, 1-4.	1.1	1
69	Fabrication and magneto-optical characterization of 3D-printed permalloy nanowires. , 2020, , 85-102.		1
70	Magnetic Solitons in Superlattices. Springer Series in Materials Science, 2016, , 219-238.	0.6	1
71	Magnetoresistance between oxidized Co-rich particles grown by high current electrochemical deposition. Solid State Communications, 2009, 149, 2043-2046.	1.9	0
72	Conduction in Atomic-Sized Magnetic Metallic Constrictions Created by FIB. , 2011, , 83-97.		0

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73	Ptâ€“C Nanowires Created by FIBID and FEBID. , 2011, , 99-127.		0
74	Trapping of a magnetic soliton by modifying the boundary conditions of a synthetic ferrimagnetic superlattice. , 2015, , .		0
75	Magnetic nanowires grown by focused electron beam-induced deposition. , 2015, , 147-171.		0
76	Vector magnetometry of Fe/Cr/Fe trilayers with biquadratic coupling. Journal Physics D: Applied Physics, 2017, 50, 19LT02.	2.8	0
77	A magnetic shift register with out-of-plane magnetized layers. Nanotechnology, 2017, 28, 385201.	2.6	0
78	Combining Micromanipulation, Kerr Magnetometry and Magnetic Force Microscopy for Characterization of Three-Dimensional Magnetic Nanostructures. , 2015, , 531-559.		0