

Pietro Gambardella

List of Publications by Year in descending order

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papers

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citations

41344

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111
all docs

111
docs citations

111
times ranked

9496
citing authors

#	ARTICLE	IF	CITATIONS
1	Scanning nitrogen-vacancy center magnetometry in large in-plane magnetic fields. Applied Physics Letters, 2022, 120, .	3.3	9
2	Geometrical control of disorder-induced magnetic domains in planar synthetic antiferromagnets. Physical Review Materials, 2022, 6, .	2.4	1
3	Engineering the Spin-Orbit Torque Efficiency and Magnetic Properties of Tb/Co Ferrimagnetic Multilayers by Stacking Order. Physical Review Applied, 2022, 17, .	3.8	6
4	Electron Paramagnetic Resonance of Alkali Metal Atoms and Dimers on Ultrathin MgO. Nano Letters, 2022, 22, 4176-4181.	9.1	12
5	Asynchronous current-induced switching of rare-earth and transition-metal sublattices in ferrimagnetic alloys. Nature Materials, 2022, 21, 640-646.	27.5	19
6	Giant orbital Hall effect and orbital-to-spin conversion in Mn_3Sn , Mn_5Sn , and Mn_4F .	3.6	37
7	Current-driven dynamics and ratchet effect of skyrmion bubbles in a ferrimagnetic insulator. Nature Nanotechnology, 2022, 17, 834-841.	31.5	39
8	Spin-orbit torque switching of magnetic tunnel junctions for memory applications. Journal of Magnetism and Magnetic Materials, 2022, 562, 169692.	2.3	32
9	Quenching of an antiferromagnet into high resistivity states using electrical or ultrashort optical pulses. Nature Electronics, 2021, 4, 30-37.	26.0	31
10	Field- and Current-Driven Magnetic Domain-Wall Inverter and Diode. Physical Review Applied, 2021, 15, .	3.8	12
11	Coexistence of Bloch and Néel walls in a collinear antiferromagnet. Physical Review B, 2021, 103, .	3.2	38
12	Magnetic logic driven by electric current. Physics Today, 2021, 74, 62-63.	0.3	1
13	Interplay of Voltage Control of Magnetic Anisotropy, Spin-Transfer Torque, and Heat in the Spin-Orbit-Torque Switching of Three-Terminal Magnetic Tunnel Junctions. Physical Review Applied, 2021, 15, .	3.8	29
14	Spin-orbit torques and magnetotransport properties of Mn_2Te and $\text{Mn}_2\text{Te}/\text{Sn}$ heterostructures. Physical Review B, 2021, 103, .	3.2	12
15	Control of Nonlocal Magnon Spin Transport via Magnon Drift Currents. Physical Review Letters, 2021, 126, 257201.	7.8	30
16	A two-terminal spin valve device controlled by spin-orbit torques with enhanced giant magnetoresistance. Applied Physics Letters, 2021, 119, .	3.3	5
17	Correlation between Electronic Configuration and Magnetic Stability in Dysprosium Single Atom Magnets. Nano Letters, 2021, 21, 8266-8273.	9.1	20
18	Real-time Hall-effect detection of current-induced magnetization dynamics in ferrimagnets. Nature Communications, 2021, 12, 656.	12.8	26

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19	Performance analysis and implementation of a scanning tunneling potentiometry setup: Toward low-noise and high-sensitivity measurements of the electrochemical potential. Review of Scientific Instruments, 2021, 92, 103707.	1.3	1
20	Chiral Coupling between Magnetic Layers with Orthogonal Magnetization. Physical Review Letters, 2021, 127, 167202.	7.8	31
21	Engineering of Intrinsic Chiral Torques in Magnetic Thin Films Based on the Dzyaloshinskii-Moriya Interaction. Physical Review Applied, 2021, 16, .	3.8	3
22	Accurate measurement of atomic magnetic moments by minimizing the tip magnetic field in STM-based electron paramagnetic resonance. Physical Review Research, 2021, 3, .	3.6	11
23	Multidomain Memristive Switching of $\text{Pt}_{38}\text{MnCoNi}$ Multilayers. Physical Review Applied, 2020, 14, .	3.8	10
24	Synthetic chiral magnets promoted by the Dzyaloshinskii-Moriya interaction. Applied Physics Letters, 2020, 117, .	3.3	22
25	Spin-orbit torque switching of an antiferromagnetic metallic heterostructure. Nature Communications, 2020, 11, 5715.	12.8	49
26	Longitudinal and transverse electron paramagnetic resonance in a scanning tunneling microscope. Science Advances, 2020, 6, .	10.3	33
27	Opportunities and challenges for spintronics in the microelectronics industry. Nature Electronics, 2020, 3, 446-459.	26.0	471
28	Asymmetric depinning of chiral domain walls in ferromagnetic trilayers. Physical Review B, 2020, 102, .	3.2	4
29	Systematic study of nonmagnetic resistance changes due to electrical pulsing in single metal layers and metal/antiferromagnet bilayers. Journal of Applied Physics, 2020, 128, .	2.5	7
30	Field-free switching of magnetic tunnel junctions driven by spin-orbit torques at sub-ns timescales. Applied Physics Letters, 2020, 116, .	3.3	43
31	The 2020 magnetism roadmap. Journal Physics D: Applied Physics, 2020, 53, 453001.	2.8	162
32	Current-driven magnetic domain-wall logic. Nature, 2020, 579, 214-218.	27.8	260
33	X-ray detection of ultrashort spin current pulses in synthetic antiferromagnets. Journal of Applied Physics, 2020, 127, .	2.5	6
34	Single-shot dynamics of spin-orbit torque and spin transfer torque switching in three-terminal magnetic tunnel junctions. Nature Nanotechnology, 2020, 15, 111-117.	31.5	167
35	Properties of PtCo Multilayers. Physical Review Applied, 2020, 14, .	3.8	19
36	Molecular Approach for Engineering Interfacial Interactions in Magnetic/Topological Insulator Heterostructures. ACS Nano, 2020, 14, 6285-6294.	14.6	9

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37	Single-atom electron paramagnetic resonance in a scanning tunneling microscope driven by a radio-frequency antenna at 4 K. <i>Physical Review Research</i> , 2020, 2, .	3.6	32
38	Magnetic Surfaces, Thin Films and Nanostructures. Springer Handbooks, 2020, , 625-698.	0.6	3
39	Chiral Domain Wall Injector Driven by Spin-Orbit Torques. <i>Nano Letters</i> , 2019, 19, 5930-5937.	9.1	24
40	High-speed domain wall racetracks in a magnetic insulator. <i>Nature Communications</i> , 2019, 10, 4750.	12.8	114
41	Current-induced spin-orbit torques in ferromagnetic and antiferromagnetic systems. <i>Reviews of Modern Physics</i> , 2019, 91, .	45.6	899
42	Current-induced switching of YIG/Pt bilayers with in-plane magnetization due to Oersted fields. <i>Applied Physics Letters</i> , 2019, 114, .	3.3	8
43	Chirally coupled nanomagnets. <i>Science</i> , 2019, 363, 1435-1439.	12.6	123
44	Effects of transition metal spacers on spin-orbit torques, spin Hall magnetoresistance, and magnetic anisotropy of Pt/Co bilayers. <i>Physical Review B</i> , 2019, 100, .	3.2	29
45	Ultra-Fast Perpendicular Spin-Orbit Torque MRAM. <i>IEEE Transactions on Magnetics</i> , 2018, 54, 1-4.	2.1	134
46	Terahertz electrical writing speed in an antiferromagnetic memory. <i>Science Advances</i> , 2018, 4, eaar3566.	10.3	221
47	On-surface transmetalation of metalloporphyrins. <i>Nanoscale</i> , 2018, 10, 21116-21122.	5.6	17
48	Asymmetric velocity and tilt angle of domain walls induced by spin-orbit torques. <i>Applied Physics Letters</i> , 2018, 113, .	3.3	16
49	SOT-MRAM 300MM Integration for Low Power and Ultrafast Embedded Memories. , 2018, , .		74
50	Chiral anisotropic magnetoresistance of ferromagnetic helices. <i>Applied Physics Letters</i> , 2018, 112, .	3.3	16
51	Interface-Enhanced Spin-Orbit Torques and Current-Induced Magnetization Switching of Pd/Co Layers. <i>Physical Review Applied</i> , 2017, 7, .	3.8	85
52	Antiferromagnetic CuMnAs multi-level memory cell with microelectronic compatibility. <i>Nature Communications</i> , 2017, 8, 15434.	12.8	149
53	A multi-state memory device based on the unidirectional spin Hall magnetoresistance. <i>Applied Physics Letters</i> , 2017, 110, .	3.3	37
54	Magneto-Optical Detection of the Spin Hall Effect in Pt and W Thin Films. <i>Physical Review Letters</i> , 2017, 119, 087203.	7.8	102

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55	Fast switching and signature of efficient domain wall motion driven by spin-orbit torques in a perpendicular anisotropy magnetic insulator/Pt bilayer. Applied Physics Letters, 2017, 111, .	3.3	55
56	Spatially and time-resolved magnetization dynamics driven by spin-orbit torques. Nature Nanotechnology, 2017, 12, 980-986.	31.5	217
57	Spin currents during ultrafast demagnetization of ferromagnetic bilayers. Journal of Physics Condensed Matter, 2017, 29, 384002.	1.8	25
58	Magnetic remanence in single atoms. Science, 2016, 352, 318-321.	12.6	259
59	Complex Magnetic Exchange Coupling between Co Nanostructures and Ni(111) across Epitaxial Graphene. ACS Nano, 2016, 10, 1101-1107.	14.6	27
60	Ultra-Fast and High-Reliability SOT-MRAM: From Cache Replacement to Normally-Off Computing. IEEE Transactions on Multi-Scale Computing Systems, 2016, 2, 49-60.	2.4	135
61	Spin-orbit torque driven chiral magnetization reversal in ultrathin nanostructures. Physical Review B, 2015, 92, .	3.2	68
62	Origin of Perpendicular Magnetic Anisotropy and Large Orbital Moment in Fe Atoms on MgO. Physical Review Letters, 2015, 115, 237202.	7.8	99
63	Magnetoresistance of heavy and light metal/ferromagnet bilayers. Applied Physics Letters, 2015, 107, .	3.3	76
64	Unidirectional spin Hall magnetoresistance in ferromagnet/normal metal bilayers. Nature Physics, 2015, 11, 570-575.	16.7	305
65	Substrate-Induced Stabilization and Reconstruction of Zigzag Edges in Graphene Nanoislands on Ni(111). Journal of Physical Chemistry C, 2015, 119, 4072-4078.	3.1	15
66	Controlling the Spin of Co Atoms on Pt(111) by Hydrogen Adsorption. Physical Review Letters, 2015, 114, 106807.	7.8	52
67	Spin-Flip and Element-Sensitive Electron Scattering in the BiAg Alloy. Physical Review Letters, 2015, 114, 166801.	7.8	23
68	Magnetism of Ho and Er Atoms on Close-Packed Metal Surfaces. Physical Review Letters, 2014, 113, 237201.	7.8	55
69	Interplay of spin-orbit torque and thermoelectric effects in ferromagnet/normal-metal bilayers. Physical Review B, 2014, 90, .	3.2	304
70	Coupling of single, double, and triple-decker metal-phthalocyanine complexes to ferromagnetic and antiferromagnetic substrates. Surface Science, 2014, 630, 361-374.	1.9	49
71	Ultrafast magnetization switching by spin-orbit torques. Applied Physics Letters, 2014, 105, .	3.3	379
72	Spin-orbit torque magnetization switching of a three-terminal perpendicular magnetic tunnel junction. Applied Physics Letters, 2014, 104, .	3.3	306

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73	Reaching the magnetic anisotropy limit of a 3 <i>d</i> metal atom. <i>Science</i> , 2014, 344, 988-992.	12.6	311
74	Fieldlike and antidamping spin-orbit torques in as-grown and annealed Ta/CoFeB/MgO layers. <i>Physical Review B</i> , 2014, 89, .	3.2	164
75	Spin Tuning of Electron-Doped Metal-Phthalocyanine Layers. <i>Journal of the American Chemical Society</i> , 2014, 136, 5451-5459.	13.7	74
76	Symmetry and magnitude of spin-orbit torques in ferromagnetic heterostructures. <i>Nature Nanotechnology</i> , 2013, 8, 587-593.	31.5	955
77	Observation of out-of-plane unidirectional anisotropy in MgO-capped planar nanowire arrays of Fe. <i>Journal of Applied Physics</i> , 2013, 114, 133903.	2.5	4
78	Magnetic Moment and Anisotropy of Individual Co Atoms on Graphene. <i>Physical Review Letters</i> , 2013, 111, 236801.	7.8	116
79	Site- and orbital-dependent charge donation and spin manipulation in electron-doped metal phthalocyanines. <i>Nature Materials</i> , 2013, 12, 337-343.	27.5	106
80	Magnetization Reversal Behaviour of Planar Nanowire Arrays of Fe. <i>Current Nanoscience</i> , 2013, 9, 609-614.	1.2	1
81	Yield and Shape Selection of Graphene Nanoislands Grown on Ni(111). <i>Nano Letters</i> , 2012, 12, 4431-4436.	9.1	43
82	Exchange Biasing Single Molecule Magnets: Coupling of TbPc ₂ to Antiferromagnetic Layers. <i>Nano Letters</i> , 2012, 12, 5703-5707.	9.1	69
83	Magnetization switching of an MgO/Co/Pt layer by in-plane current injection. <i>Applied Physics Letters</i> , 2012, 100, .	3.3	85
84	Magnetic properties of planar nanowire arrays of Co fabricated on oxidized step-bunched silicon templates. <i>Nanotechnology</i> , 2012, 23, 235702.	2.6	16
85	Oxygen Dissociation by Concerted Action of Di-Iron Centers in Metal-Organic Coordination Networks at Surfaces: Modeling Non-Heme Iron Enzymes. <i>Nano Letters</i> , 2011, 11, 5414-5420.	9.1	66
86	Coupling Single Molecule Magnets to Ferromagnetic Substrates. <i>Physical Review Letters</i> , 2011, 107, 177205.	7.8	153
87	Perpendicular switching of a single ferromagnetic layer induced by in-plane current injection. <i>Nature</i> , 2011, 476, 189-193.	27.8	2,268
88	Self-Assembled Nanometer-Scale Magnetic Networks on Surfaces: Fundamental Interactions and Functional Properties. <i>Advanced Functional Materials</i> , 2011, 21, 1212-1228.	14.9	48
89	Formation of one-dimensional ordered alloy at step edges: An atomistic study of the (2 \bar{A} -1) Ni/Pt alloy on the Pt(997) surface. <i>Surface Science</i> , 2011, 605, 917-922.	1.9	17
90	Current-driven spin torque induced by the Rashba effect in a ferromagnetic metal layer. <i>Nature Materials</i> , 2010, 9, 230-234.	27.5	1,162

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91	Correlated Electrons Step by Step: Itinerant-to-Localized Transition of Fe Impurities in Free-Electron Metal Hosts. <i>Physical Review Letters</i> , 2010, 104, 117601.	7.8	22
92	Spin and Orbital Magnetic Moment Anisotropies of Monodispersed Bis(Phthalocyaninato)Terbium on a Copper Surface. <i>Journal of the American Chemical Society</i> , 2010, 132, 11900-11901.	13.7	147
93	Orbital Specific Chirality and Homochiral Self-Assembly of Achiral Molecules Induced by Charge Transfer and Spontaneous Symmetry Breaking. <i>Physical Review Letters</i> , 2010, 105, 115702.	7.8	116
94	Longitudinal detection of ferromagnetic resonance using x-ray transmission measurements. <i>Review of Scientific Instruments</i> , 2009, 80, 123902.	1.3	21
95	Supramolecular control of the magnetic anisotropy in two-dimensional high-spin Fe arrays at a metal interface. <i>Nature Materials</i> , 2009, 8, 189-193.	27.5	262
96	Simultaneous in-plane and out-of-plane exchange bias using a single antiferromagnetic layer resolved by x-ray magnetic circular dichroism. <i>Applied Physics Letters</i> , 2009, 95, .	3.3	30
97	Magnetism of individual atoms adsorbed on surfaces. <i>Surface Science</i> , 2009, 603, 1812-1830.	1.9	108
98	Kondo Effect in Single Atom Contacts: The Importance of the Atomic Geometry. <i>Physical Review Letters</i> , 2008, 101, 216802.	7.8	60
99	Quantum chains with a spin. <i>Nature Materials</i> , 2006, 5, 431-432.	27.5	16
100	Finite-sized Heisenberg chains and magnetism of one-dimensional metal systems. <i>Applied Physics A: Materials Science and Processing</i> , 2006, 82, 385-394.	2.3	61
101	X-ray ferromagnetic resonance spectroscopy. <i>Applied Physics Letters</i> , 2005, 87, 152503.	3.3	42
102	Giant Magnetic Anisotropy of Single Cobalt Atoms and Nanoparticles. <i>Science</i> , 2003, 300, 1130-1133.	12.6	967
103	Magnetism in monatomic metal wires. <i>Journal of Physics Condensed Matter</i> , 2003, 15, S2533-S2546.	1.8	44
104	Ferromagnetism in one-dimensional monatomic metal chains. <i>Nature</i> , 2002, 416, 301-304.	27.8	795
105	Ni growth on vicinal Pt(111): low temperature exchange and formation of ordered surface alloys. <i>Surface Science</i> , 2001, 475, L229-L234.	1.9	49
106	Co growth on Pt(997): from monatomic chains to monolayer completion. <i>Surface Science</i> , 2000, 449, 93-103.	1.9	124
107	One-dimensional metal chains on Pt vicinal surfaces. <i>Physical Review B</i> , 2000, 61, 2254-2262.	3.2	224
108	Electronic states and magnetism of monatomic Co and Cu wires. <i>Physical Review B</i> , 2000, 61, R5133-R5136.	3.2	73

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109	Collision induced desorption and dissociation of O ₂ chemisorbed on Ag(001). Journal of Chemical Physics, 1998, 109, 2490-2502.	3.0	33
110	HREELS study of CO oxidation on Ag(001) by O ₂ or O. Surface Science, 1997, 374, 1-8.	1.9	34
111	Enhanced collision induced desorption and dissociation of O ₂ chemisorbed on Ag(001) at grazing incidence. Chemical Physics Letters, 1997, 278, 245-250.	2.6	24