Martin Gmitra

List of Publications by Year
in descending order

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93	6,469	117453	64668
papers	citations	34 h-index	79 g-index

95	95	95	6648
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Graphene spintronics. Nature Nanotechnology, 2014, 9, 794-807.	15.6	1,290
2	k Â· p theory for two-dimensional transition metal dichalcogenide semiconductors. 2D Materials, 2015, 2, 022001.	2.0	676
3	Band-structure topologies of graphene: Spin-orbit coupling effects from first principles. Physical Review B, 2009, 80, .	1.1	579
4	Tight-binding theory of the spin-orbit coupling in graphene. Physical Review B, 2010, 82, .	1.1	425
5	Graphene on transition-metal dichalcogenides: A platform for proximity spin-orbit physics and optospintronics. Physical Review B, 2015, 92, .	1.1	268
6	Trivial and inverted Dirac bands and the emergence of quantum spin Hall states in graphene on transition-metal dichalcogenides. Physical Review B, 2016, 93, .	1.1	227
7	Electron spin relaxation in graphene: The role of the substrate. Physical Review B, 2009, 80, .	1.1	222
8	Lightwave valleytronics in a monolayer of tungsten diselenide. Nature, 2018, 557, 76-80.	13.7	201
9	Spin Relaxation Mechanism in Graphene: Resonant Scattering by Magnetic Impurities. Physical Review Letters, 2014, 112, 116602.	2.9	185
10	From giant magnetoresistance to current-induced switching by spin transfer. Physical Review B, 2005, 72, .	1.1	156
11	Spin-Orbit Coupling in Hydrogenated Graphene. Physical Review Letters, 2013, 110, 246602.	2.9	154
12	Gate-tunable black phosphorus spin valve with nanosecond spin lifetimes. Nature Physics, 2017, 13, 888-893.	6.5	119
13	Magnetic quantum ratchet effect in graphene. Nature Nanotechnology, 2013, 8, 104-107.	15.6	116
14	Excitonic Valley Effects in Monolayer WS₂ under High Magnetic Fields. Nano Letters, 2016, 16, 7899-7904.	4.5	114
15	Proximity Effects in Bilayer Graphene on Monolayer <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow><mml:mi>WSe</mml:mi></mml:mrow><mml:mrow><mml:mn>2</mml:mn> : Field-Effect Spin Valley Locking, Spin-Orbit Valve, and Spin Transistor. Physical Review Letters, 2017, 119, 146401.	2.9	108
16	Theory of spin-orbit coupling in bilayer graphene. Physical Review B, 2012, 85, .	1.1	90
17	Spin transport in hydrogenated graphene. 2D Materials, 2015, 2, 022002.	2.0	81
18	Theory of proximity-induced exchange coupling in graphene on hBN/(Co, Ni). Physical Review B, 2016, 94, .	1.1	74

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19	Quantum Anomalous Hall Effects in Graphene from Proximity-Induced Uniform and Staggered Spin-Orbit and Exchange Coupling. Physical Review Letters, 2020, 124, 136403.	2.9	67
20	Protected Pseudohelical Edge States in <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mi mathvariant="double-struck">Z</mml:mi><mml:mn>2</mml:mn></mml:msub></mml:math> -Trivial Proximitized Graphene. Physical Review Letters, 2018, 120, 156402.	2.9	57
21	Spin-orbit coupling in fluorinated graphene. Physical Review B, 2015, 91, .	1.1	56
22	Current-Driven Destabilization of Both Collinear Configurations in Asymmetric Spin Valves. Physical Review Letters, 2006, 96, 207205.	2.9	55
23	First-principles studies of orbital and spin-orbit properties of GaAs, GaSb, InAs, and InSb zinc-blende and wurtzite semiconductors. Physical Review B, 2016, 94, .	1.1	54
24	Excitonic Stark effect in<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi>MoS</mml:mi><mml:mn>2</mml:mn></mml:msub></mml:math> Physical Review B, 2016, 94, .	1.1	48
25	Robust spin-orbit torque and spin-galvanic effect at the Fe/GaAs (001) interface at room temperature. Nature Communications, 2016, 7, 13802.	5.8	48
26	Heterostructures of graphene and hBN: Electronic, spin-orbit, and spin relaxation properties from first principles. Physical Review B, 2019, 99, .	1.1	47
27	Spin-orbit coupling in elemental two-dimensional materials. Physical Review B, 2019, 100, .	1.1	45
28	Spin-orbit coupling and spin relaxation in phosphorene: Intrinsic versus extrinsic effects. Physical Review B, 2016, 94, .	1.1	44
29	Twist-angle dependent proximity induced spin-orbit coupling in graphene/transition metal dichalcogenide heterostructures. Physical Review B, 2021, 104, .	1.1	44
30	Electrically tunable exchange splitting in bilayer graphene on monolayer $Cr_2X_2Te_6$ with X = Ge, Si, and Sn. New Journal of Physics, 2018, 20, 073007.	1.2	43
31	Angular dependence of the tunneling anisotropic magnetoresistance in magnetic tunnel junctions. Physical Review B, 2009, 80, .	1.1	40
32	Realistic multiband<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi>k</mml:mi><mml:mo>Â·</mml:mo><mml:mi>p</mml:mi> fromab initioand spin-orbit coupling effects of InAs and InP in wurtzite phase. Physical Review B, 2016, 93, .	1.1	40
33	Theory of electronic and spin-orbit proximity effects in graphene on Cu(111). Physical Review B, 2016, 93, .	1.1	36
34	<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi>k</mml:mi><mml:mo>Â·</mml:mo><mml:mi>p</mml:mi> theory for phosphorene: Effective <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mi>g</mml:mi></mml:math> -factors, Landau levels, and excitons. Physical Review B, 2019, 100, .	1.1	36
35	Enhanced spinâ€“orbit coupling in core/shell nanowires. Nature Communications, 2016, 7, 12413.	5.8	34
36	Boosting proximity spinâ€“orbit coupling in graphene/WSe2 heterostructures via hydrostatic pressure. Npj 2D Materials and Applications, 2021, 5, .	3.9	34

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37	Spin-orbit coupling effects in zinc-blende InSb and wurtzite InAs nanowires: Realistic calculations with multiband <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi mathvariant="bold">k</mml:mi><mml:mo>Â·</mml:mo><mml:mi mathvariant="bold">p</mml:mi></mml:mrow></mml:math> method. Physical Review B, 2018, 97, .	1.1	32
38	Swapping Exchange and Spin-Orbit Coupling in 2D van der Waals Heterostructures. Physical Review Letters, 2020, 125, 196402.	2.9	32
39	Magnetic Control of Spin-Orbit Fields: A First-Principles Study of<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>Fe</mml:mi><mml:mo>/</mml:mo><mml:mi>GaAs</mml:mi></mml:math>Junctions. Physical Review Letters, 2013, 111, 036603.	2.9	30
40	Resonant Scattering by Magnetic Impurities as a Model for Spin Relaxation in Bilayer Graphene. Physical Review Letters, 2015, 115, 196601.	2.9	29
41	Emergence of spinâ€“orbit fields in magnetotransport of quasi-two-dimensional iron on gallium arsenide. Nature Communications, 2015, 6, 7374.	5.8	28
42	Copper adatoms on graphene: Theory of orbital and spin-orbital effects. Physical Review B, 2017, 95, .	1.1	28
43	Twist-angle engineering of excitonic quantum interference and optical nonlinearities in stacked 2D semiconductors. Nature Communications, 2021, 12, 1553.	5.8	28
44	Electric-field control of interfacial spinâ€“orbit fields. Nature Electronics, 2018, 1, 350-355.	13.1	26
45	Spin-orbit coupling in methyl functionalized graphene. Physical Review B, 2016, 93, .	1.1	24
46	Current-induced dynamics in noncollinear dual spin valves. Physical Review B, 2009, 80, .	1.1	19
47	Current-induced dynamics in asymmetric spin valves. Applied Physics Letters, 2006, 89, 223121.	1.5	15
48	Optical conductivity of hydrogenated graphene from first principles. Physical Review B, 2014, 89, .	1.1	15
49	Thermally Assisted Current-Driven Bistable Precessional Regimes in Asymmetric Spin Valves. Physical Review Letters, 2007, 99, 097205.	2.9	14
50	Macroscopic description of spin transfer torque. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 2006, 126, 271-274.	1.7	13
51	Correlation of the angular dependence of spin-transfer torque and giant magnetoresistance in the limit of diffusive transport in spin valves. Physical Review B, 2009, 79, .	1.1	13
52	Anisotropic Polar Magneto-Optic Kerr Effect of Ultrathin<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mi>Fe</mml:mi><mml:mrow><mml:mo>/</mml:mo><mml:mi>GaAs</mml:mi><mml:mo stretchy="false">(</mml:mo><mml:mn>001</mml:mn><mml:mo) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 132 Td (stretchy="false">)</mml:mo>	2.9	13
53	Spin-Orbit Interaction. Physical Review Letters, 2016, 117, 157202. Chiral Majorana fermions in graphene from proximity-induced superconductivity. Physical Review B, 2020, 101, .	1.1	13
54	Fully spin-polarized bulk states in ferroelectric GeTe. Physical Review Research, 2020, 2, .	1.3	13

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55	Current-pulse-induced magnetic switching in standard and nonstandard spin-valves: Theory and numerical analysis. Physical Review B, 2009, 79, .	1.1	12
56	Spin properties of black phosphorus and phosphorene, and their prospects for spincalorics. Journal Physics D: Applied Physics, 2018, 51, 174001.	1.3	12
57	Triple-Point Fermions in Ferroelectric GeTe. Physical Review Letters, 2021, 126, 206403.	2.9	12
58	Proximity spin-orbit and exchange coupling in ABA and ABC trilayer graphene van der Waals heterostructures. Physical Review B, 2022, 105, .	1.1	12
59	Spin relaxation in fluorinated single and bilayer graphene. Physical Review B, 2019, 100, .	1.1	10
60	Influence of interface spin-flip scattering on spin accumulation and spin currents in magnetic multilayers with collinear magnetizations. Journal of Applied Physics, 2006, 99, 023905.	1.1	9
61	Anisotropic optical properties of Fe/GaAs(001) nanolayers from first principles. Physical Review B, 2014, 90, .	1.1	9
62	Theory of the ac Spin-Valve Effect. Physical Review Letters, 2011, 107, 176604.	2.9	8
63	A self-adjusted Monte Carlo simulation as a model for financial markets with central regulation. Physica A: Statistical Mechanics and Its Applications, 2006, 361, 589-605.	1.2	7
64	Neural network approach to magnetic dot arrays modeling. Journal of Magnetism and Magnetic Materials, 2001, 231, 273-286.	1.0	5
65	The neural network two-scale model of the magnetic dot array. Journal of Magnetism and Magnetic Materials, 2003, 256, 195-213.	1.0	5
66	The co-evolutionary dynamics of directed network of spin market agents. Physica A: Statistical Mechanics and Its Applications, 2006, 369, 780-788.	1.2	4
67	First-Principles Study of Kondo Insulator SmB_{6}. Acta Physica Polonica A, 2014, 126, 298-299.	0.2	4
68	The magnetic reversal in dot arrays recognized by the self-organized adaptive neural network. Journal of Magnetism and Magnetic Materials, 2003, 265, 69-82.	1.0	3
69	THE SELF-ORGANIZED MULTI-LATTICE MONTE CARLO SIMULATION. International Journal of Modern Physics C, 2004, 15, 1249-1268.	0.8	3
70	The evidence of the localized point defect from the remagnetization of a magnetic dot array. Journal of Magnetism and Magnetic Materials, 2006, 304, e486-e488.	1.0	3
71	The critical properties of the agent-based model with environmentalâ€“economic interactions. Physica A: Statistical Mechanics and Its Applications, 2007, 379, 199-206.	1.2	3
72	Self-organized Monte Carlo Localization of Critical Point Via Linear Filtering. European Physical Journal D, 2004, 54, 921-926.	0.4	2

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73	The Partitioning of Magnetic Configurations using the Self-organized Neural Network. European Physical Journal D, 2004, 54, 631-634.	0.4	2
74	PROPERTIES OF ITERATIVE MONTE CARLO SINGLE HISTOGRAM REWEIGHTING. International Journal of Modern Physics C, 2005, 16, 1943-1952.	0.8	2
75	Current-induced spin dynamics in spin-valve structures. Physica Status Solidi (B): Basic Research, 2006, 243, 219-222.	0.7	2
76	The Evolutionary Approach to the Optimization of Finite-Size Effects in Magnetic Dot Arrays. European Physical Journal D, 2002, 52, 123-126.	0.4	1
77	The Effective Model of Chirality-chirality Correlations of the System of Magnetized Nano-loops. European Physical Journal D, 2004, 54, 117-120.	0.4	1
78	The perturbative construction of the effective soft-spin Hamiltonian of the system of magnetized nano-loops. Physica Status Solidi (B): Basic Research, 2004, 241, 3624-3635.	0.7	1
79	<title>The dot-vacancy contribution to two-fold anisotropy of magnetic dot array</title>. , 2004, , .		1
80	Current-induced switching in spin-valve structures. Physica Status Solidi (B): Basic Research, 2007, 244, 2304-2310.	0.7	1
81	The dynamical response to the node defect in thermally activated remagnetization of magnetic dot array. Journal of Magnetism and Magnetic Materials, 2008, 320, 1083-1088.	1.0	1
82	Current-induced magnetic switching and dynamics in spin valves. Journal of Non-Crystalline Solids, 2008, 354, 4181-4185.	1.5	1
83	Perspectives in spintronics: magnetic resonant tunneling, spin-orbit coupling, and GaMnAs. Journal of Physics: Conference Series, 2008, 129, 012021.	0.3	1
84	Spin-orbit coupling in graphene structures. , 2012, , .		1
85	Spin dependent tunneling through a quantum dot attached to ferromagnetic electrodes with non-collinear magnetizations. Journal of Alloys and Compounds, 2006, 423, 264-266.	2.8	0
86	Spin dynamics due to spin-transfer in magnetic spin valves. Journal of Alloys and Compounds, 2006, 423, 194-196.	2.8	0
87	Current induced switching due to spin-transfer in spin valves: macroscopic model. Physica Status Solidi C: Current Topics in Solid State Physics, 2006, 3, 97-100.	0.8	0
88	The statistical response to the point defect in thermally activated remagnetization of magnetic dot array. Physics of Particles and Nuclei Letters, 2008, 5, 207-210.	0.1	0
89	Terahertz radiation induced photocurrents in graphene subjected to an in-plane magnetic field. , 2012, , .		0
90	Spin-Dependent Phenomena in Magnetoelectronic Devices. Acta Physica Polonica A, 2007, 112, 1259-1265.	0.2	0

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91	Current-Driven Magnetoresistance Oscillations in Asymmetric Spin Valves. Acta Physica Polonica A, 2007, 112, 1267-1270.	0.2	0
92	Defect Sensitivity of Magnetic Dot Arrays Influenced by Thermal Activation and Intradot Anisotropy. Acta Physica Polonica A, 2008, 113, 583-586.	0.2	0
93	Thermally Assisted Current-Driven Dynamics in Asymmetric Spin Valves. Acta Physica Polonica A, 2008, 113, 31-34.	0.2	0