

Hyun-Woo Lee

List of Publications by Year in descending order

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144
papers

7,415
citations

61857

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148
all docs

148
docs citations

148
times ranked

4910
citing authors

#	ARTICLE	IF	CITATIONS
1	Electron counting statistics and coherent states of electric current. Journal of Mathematical Physics, 1996, 37, 4845-4866.	0.5	808
2	Field-free switching of perpendicular magnetization through spin-orbit torque in antiferromagnet/ferromagnet/oxide structures. Nature Nanotechnology, 2016, 11, 878-884.	15.6	438
3	Current induced torques and interfacial spin-orbit coupling: Semiclassical modeling. Physical Review B, 2013, 87, .	1.1	420
4	Spin-orbit-torque engineering via oxygen manipulation. Nature Nanotechnology, 2015, 10, 333-338.	15.6	271
5	Spin-wave propagation in the presence of interfacial Dzyaloshinskii-Moriya interaction. Physical Review B, 2013, 88, .	1.1	267
6	Spin Hall torque magnetometry of Dzyaloshinskii domain walls. Physical Review B, 2014, 90, .	1.1	221
7	Angular and temperature dependence of current induced spin-orbit effective fields in Ta/CoFeB/MgO nanowires. Scientific Reports, 2014, 4, 4491.	1.6	204
8	Magnetization dynamics induced by in-plane currents in ultrathin magnetic nanostructures with Rashba spin-orbit coupling. Physical Review B, 2012, 85, .	1.1	203
9	Origin of Synchronized Traffic Flow on Highways and Its Dynamic Phase Transitions. Physical Review Letters, 1998, 81, 1130-1133.	2.9	202
10	Bias-voltage dependence of perpendicular spin-transfer torque in asymmetric MgO-based magnetic tunnel junctions. Nature Physics, 2009, 5, 898-902.	6.5	193
11	Current-induced domain wall motion in a nanowire with perpendicular magnetic anisotropy. Applied Physics Letters, 2008, 92, 202508.	1.5	185
12	Chirality from Interfacial Spin-Orbit Coupling Effects in Magnetic Bilayers. Physical Review Letters, 2013, 111, 216601.	2.9	166
13	Coherent states of alternating current. Physical Review B, 1997, 56, 6839-6850.	1.1	156
14	Generic Transmission Zeros and In-Phase Resonances in Time-Reversal Symmetric Single Channel Transport. Physical Review Letters, 1999, 82, 2358-2361.	2.9	156
15	Dynamic states of a continuum traffic equation with on-ramp. Physical Review E, 1999, 59, 5101-5111.	0.8	151
16	Intrinsic Spin and Orbital Hall Effects from Orbital Texture. Physical Review Letters, 2018, 121, 086602.	2.9	149
17	Interdimensional universality of dynamic interfaces. Nature, 2009, 458, 740-742.	13.7	127
18	Current-induced torques and interfacial spin-orbit coupling. Physical Review B, 2013, 88, .	1.1	121

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19	Strain Engineering of the Berry Curvature Dipole and Valley Magnetization in Monolayer MoS_2 . Physical Review Letters, 2019, 123, 036806.	2.9	108
20	Gigantic intrinsic orbital Hall effects in weakly spin-orbit coupled metals. Physical Review B, 2018, 98, .	1.1	107
21	Universal statistics of transport in disordered conductors. Physical Review B, 1995, 51, 4079-4083.	1.1	105
22	Orbital torque: Torque generation by orbital current injection. Physical Review Research, 2020, 2, .	1.3	99
23	Magnetic-field-controlled reconfigurable semiconductor logic. Nature, 2013, 494, 72-76.	13.7	92
24	Curvature-enhanced spin-orbit coupling in a carbon nanotube. Physical Review B, 2009, 80, .	1.1	91
25	Prediction of Giant Spin Motive Force due to Rashba Spin-Orbit Coupling. Physical Review Letters, 2012, 108, 217202.	2.9	90
26	Orbital chirality and Rashba interaction in magnetic bands. Physical Review B, 2013, 87, .	1.1	78
27	Orbitronics: Orbital currents in solids. Europhysics Letters, 2021, 135, 37001.	0.7	77
28	Current-induced motion of a transverse magnetic domain wall in the presence of spin Hall effect. Applied Physics Letters, 2012, 101, .	1.5	75
29	Universality Classes of Magnetic Domain Wall Motion. Physical Review Letters, 2011, 107, 067201.	2.9	70
30	Orbital torque in magnetic bilayers. Nature Communications, 2021, 12, 6710.	5.8	69
31	Spin-Orbit Torque Switching in an All-Van der Waals Heterostructure. Advanced Materials, 2022, 34, e2101730.	11.1	68
32	Toward surface orbitronics: giant orbital magnetism from the orbital Rashba effect at the surface of sp-metals. Scientific Reports, 2017, 7, 46742.	1.6	67
33	Theory of current-induced angular momentum transfer dynamics in spin-orbit coupled systems. Physical Review Research, 2020, 2, .	1.3	65
34	Spin-orbit torques from interfacial spin-orbit coupling for various interfaces. Physical Review B, 2017, 96, .	1.1	64
35	Angular dependence of spin-orbit spin-transfer torques. Physical Review B, 2015, 91, .	1.1	63
36	Gigantic Current Control of Coercive Field and Magnetic Memory Based on Nanometer-Thin Ferromagnetic van der Waals Fe_3GeTe_2 . Advanced Materials, 2021, 33, e2004110.	11.1	58

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37	Phase diagram of congested traffic flow: An empirical study. <i>Physical Review E</i> , 2000, 62, 4737-4741.	0.8	57
38	Nonequilibrium Dephasing in an Electronic Mach-Zehnder Interferometer. <i>Physical Review Letters</i> , 2008, 100, 196807.	2.9	50
39	Supersymmetry in carbon nanotubes in a transverse magnetic field. <i>Physical Review B</i> , 2003, 68, .	1.1	48
40	k -asymmetric spin splitting at the interface between transition metal ferromagnets and heavy metals. <i>Physical Review B</i> , 2016, 93, .	1.1	48
41	Nontrivial torque generation by orbital angular momentum injection in ferromagnetic-metal/trilayers. <i>Physical Review B</i> , 2021, 103, .	1.1	47
42	Orbital Rashba effect in a surface-oxidized Cu film. <i>Physical Review B</i> , 2021, 103, .	1.1	47
43	Curvature-induced spin-orbit coupling and spin relaxation in a chemically clean single-layer graphene. <i>Physical Review B</i> , 2011, 84, .	1.1	45
44	Gate-tunable giant nonreciprocal charge transport in noncentrosymmetric oxide interfaces. <i>Nature Communications</i> , 2019, 10, 4510.	5.8	44
45	Magnetic vortex wall motion driven by spin waves. <i>Applied Physics Letters</i> , 2011, 98, .	1.5	40
46	Steady-state solutions of hydrodynamic traffic models. <i>Physical Review E</i> , 2004, 69, 016118.	0.8	39
47	Theory of Large Intrinsic Spin Hall Effect in Iridate Semimetals. <i>Scientific Reports</i> , 2018, 8, 8052.	1.6	39
48	Nonlocal Spin Diffusion Driven by Giant Spin Hall Effect at Oxide Heterointerfaces. <i>Nano Letters</i> , 2017, 17, 36-43.	4.5	37
49	Self-consistent calculation of spin transport and magnetization dynamics. <i>Physics Reports</i> , 2013, 531, 89-113.	10.3	36
50	Traffic states of a model highway with on-ramp. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2000, 281, 78-86.	1.2	34
51	Magnon-mediated Dzyaloshinskii-Moriya torque in homogeneous ferromagnets. <i>Physical Review B</i> , 2014, 90, .	1.1	32
52	Drift-induced modifications to the dynamical polarization of graphene. <i>Physical Review B</i> , 2015, 92, .	1.1	31
53	Perpendicular magnetic anisotropy of two-dimensional Rashba ferromagnets. <i>Physical Review B</i> , 2016, 94, .	1.1	30
54	Electrical measurements of the polarization in a moving magnetic vortex. <i>Applied Physics Letters</i> , 2009, 95, 123110.	1.5	28

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55	Static and dynamic depinning processes of a magnetic domain wall from a pinning potential. <i>Physical Review B</i> , 2011, 84, .	1.1	28
56	Magnetic domain-wall motion in a nanowire: Depinning and creep. <i>Physical Review B</i> , 2011, 84, .	1.1	27
57	Current fluctuations in a single tunnel junction. <i>Physical Review B</i> , 1996, 53, 7383-7391.	1.1	26
58	Exactly solvable two-way traffic model with ordered sequential update. <i>Physical Review E</i> , 1999, 60, 6465-6479.	0.8	26
59	Electric Current Effect on the Energy Barrier of Magnetic Domain Wall Depinning: Origin of the Quadratic Contribution. <i>Physical Review Letters</i> , 2011, 107, 217205.	2.9	26
60	Optical spin-orbit torque in heavy metal-ferromagnet heterostructures. <i>Nature Communications</i> , 2020, 11, 1482.	5.8	26
61	Correlation-Induced Resonances and Population Switching in a Quantum-Dot Coulomb Valley. <i>Physical Review Letters</i> , 2007, 98, 186805.	2.9	22
62	Spin-wave propagation in the presence of inhomogeneous Dzyaloshinskii-Moriya interactions. <i>Physical Review B</i> , 2017, 96, .	1.1	20
63	Ballistic spin field-effect transistors: Multichannel effects. <i>Physical Review B</i> , 2006, 74, .	1.1	19
64	Current-driven domain wall motion with spin Hall effect: Reduction of threshold current density. <i>Applied Physics Letters</i> , 2013, 102, 172404.	1.5	19
65	Highly Efficient Nonvolatile Magnetization Switching and Multi-Level States by Current in Single Van der Waals Topological Ferromagnet Fe_3GeTe_2 . <i>Advanced Functional Materials</i> , 2021, 31, 2105992.	7.8	19
66	Andreev reflection with spin-flip scattering through a T-shaped double quantum dot. <i>Journal of Applied Physics</i> , 2007, 101, 103918.	1.1	18
67	Rashba spin-orbit coupling effects on a current-induced domain wall motion. <i>Journal of Magnetism and Magnetic Materials</i> , 2012, 324, 1449-1452.	1.0	17
68	Current-carrying capacity of double-wall carbon nanotubes. <i>Nanotechnology</i> , 2007, 18, 235201.	1.3	16
69	Intrinsic spin torque without spin-orbit coupling. <i>Physical Review B</i> , 2015, 92, .	1.1	16
70	Nonreciprocal spin waves in a chiral antiferromagnet without the Dzyaloshinskii-Moriya interaction. <i>Physical Review B</i> , 2018, 98, .	1.1	16
71	Enhanced perpendicular magnetocrystalline anisotropy energy in an artificial magnetic material with bulk spin-momentum coupling. <i>Physical Review B</i> , 2019, 99, .	1.1	16
72	Possible contribution of high-energy magnons to unidirectional magnetoresistance in metallic bilayers. <i>Applied Physics Express</i> , 2019, 12, 063001.	1.1	16

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73	Spin relaxation in mesoscopic superconducting Al wires. <i>Physical Review B</i> , 2005, 71, .	1.1	15
74	Analytic expression of the temperature increment in a spin transfer torque nanopillar structure. <i>Journal of Magnetism and Magnetic Materials</i> , 2009, 321, 3589-3594.	1.0	14
75	Spin-wave-induced domain wall motion in perpendicularly magnetized system. <i>Applied Physics Express</i> , 2014, 7, 033001.	1.1	14
76	Current-Induced Domain-Wall Motion in [CoFe/Pt] ₅ Nanowire With Perpendicular Magnetic Anisotropy. <i>IEEE Transactions on Magnetics</i> , 2009, 45, 3773-3775.	1.2	13
77	Chiral magnetoresistance in Pt/Co/Pt zigzag wires. <i>Applied Physics Letters</i> , 2017, 110, .	1.5	13
78	Interfacial Rashba magnetoresistance of the two-dimensional electron gas at the $\text{LaAlO}_3/\text{SrTiO}_3$ interface. <i>Physical Review B</i> , 2017, 96, .	1.1	13
79	Towards unified understanding of conductance of stretched monatomic contacts. <i>Physical Review B</i> , 2003, 68, .	1.1	12
80	Current-induced domain wall motion: Domain wall velocity fluctuations. <i>Journal of Applied Physics</i> , 2009, 105, .	1.1	12
81	Current-Induced Magnetic Domain-Wall Motion by Spin Transfer Torque: Collective Coordinate Approach with Domain-Wall Width Variation. <i>Journal of Magnetism and Magnetic Materials</i> , 2007, 12, 1-6.	0.2	12
82	Orbital Dynamics in Centrosymmetric Systems. <i>Physical Review Letters</i> , 2022, 128, 176601.	2.9	12
83	Controllable chirality switching of a moving domain wall by oblique magnetic field. <i>Applied Physics Letters</i> , 2010, 97, 032507.	1.5	11
84	Universal classes of magnetic-field- and electric-current-induced magnetic domain-wall dynamics in one and two dimensional regimes. <i>Current Applied Physics</i> , 2013, 13, 228-236.	1.1	11
85	Spin-orbit-torque-induced skyrmion dynamics for different types of spin-orbit coupling. <i>Journal of Magnetism and Magnetic Materials</i> , 2018, 455, 14-18.	1.0	11
86	Even-odd behavior and quantization of conductance in monovalent atomic contacts. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , 2002, 14, 347-354.	1.3	10
87	Transmission zero in a quantum dot with strong electron-electron interaction: Perturbative conductance calculations. <i>Physical Review B</i> , 2006, 73, .	1.1	10
88	Effect of spin diffusion on current generated by spin motive force. <i>Physical Review B</i> , 2011, 84, .	1.1	10
89	Roles of chiral renormalization on magnetization dynamics in chiral magnets. <i>Physical Review B</i> , 2018, 97, .	1.1	10
90	Spin-orbit-stable type-II nodal line band crossing in Mn-doped MoX_2 monolayer		

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91	Berry curvature in monolayer MoS_2 with broken mirror symmetry. <i>Physical Review B</i> , 2018, 97, .		
92	Unidirectional Magnon-Driven Domain Wall Motion Due to the Interfacial Dzyaloshinskii-Moriya Interaction. <i>Physical Review Letters</i> , 2019, 122, 147202.	2.9	10
93	Spin polarization amplification within nonmagnetic semiconductors at room temperature. <i>Physical Review B</i> , 2006, 73, .	1.1	9
94	Numerical computation of spin-transfer torques for antiferromagnetic domain walls. <i>Physical Review B</i> , 2020, 101, .	1.1	9
95	Effect of ferromagnetic contacts on spin accumulation in an all-metallic lateral spin-valve system: Semiclassical spin drift-diffusion equations. <i>Physical Review B</i> , 2008, 78, .	1.1	8
96	The critical role of next-nearest-neighbor interlayer interaction in the magnetic behavior of magnetic/non-magnetic multilayers. <i>New Journal of Physics</i> , 2013, 15, 123025.	1.2	8
97	Flux-dependent transport through an Aharonov-Bohm interferometer with embedded multiple coupled quantum dots. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 2008, 372, 2073-2078.	0.9	7
98	Effects of Rashba and Dresselhaus spin-orbit interactions on the ground state of two-dimensional localized spins. <i>Journal of Physics Condensed Matter</i> , 2014, 26, 196005.	0.7	7
99	SHE's electric. <i>Nature Physics</i> , 2014, 10, 549-550.	6.5	7
100	Tuning Locality of Pair Coherence in Graphene-based Andreev Interferometers. <i>Scientific Reports</i> , 2015, 5, 8715.	1.6	7
101	Chiral damping. <i>Nature Materials</i> , 2016, 15, 253-254.	13.3	7
102	Electro-optics of current-carrying graphene. <i>Physical Review B</i> , 2018, 98, .	1.1	7
103	Interfacial atomic layers for full emergence of interfacial Dzyaloshinskii-Moriya interaction. <i>NPG Asia Materials</i> , 2020, 12, .	3.8	7
104	Unidirectional spin Hall magnetoresistance in epitaxial Cr/Fe bilayer from electron-magnon scattering. <i>Communications Physics</i> , 2021, 4, .	2.0	7
105	Negative intrinsic orbital Hall effect in group XIV materials. <i>Physical Review B</i> , 2021, 104, .	1.1	7
106	Mesoscopic effects in a single-mode Datta-Das spin field-effect transistor. <i>Physical Review B</i> , 2005, 72, .	1.1	6
107	Coherent spin waves driven by optical spin-orbit torque. <i>Physical Review B</i> , 2020, 102, .	1.1	6
108	Spin-memory loss induced by bulk spin-orbit coupling at ferromagnet/heavy-metal interfaces. <i>Applied Physics Letters</i> , 2021, 118, .	1.5	6

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109	Non-Local Transport in a Multi-Wall Carbon Nanotube. Journal of the Physical Society of Japan, 2001, 70, 789-792.	0.7	5
110	Nonmonotonic Behavior of Resistance in a Superconductorâ€“Luttinger Liquid Junction. Physical Review Letters, 2003, 90, 247001.	2.9	5
111	Nonequilibrium Kondo effect and Andreev reflection through double quantum dots with spin-flip scattering. Physics Letters, Section A: General, Atomic and Solid State Physics, 2008, 372, 6424-6428.	0.9	5
112	Revival of Electron Coherence in a Quantum Wire of Finite Length. Physical Review Letters, 2009, 102, 076401.	2.9	5
113	Interlayer exchange coupling between next nearest neighbor layers. Physical Review B, 2012, 86, .	1.1	5
114	Visibility recovery by strong interaction in an electronic Mach-Zehnder interferometer. Physical Review B, 2012, 86, .	1.1	5
115	Slater-Pauling behavior of interfacial magnetic properties of d - $4d$ transition metal alloy/Pt structures. Physical Review B, 2022, 105, .		
116	Fluctuations of the inverse compressibility in disordered electron systems. Physical Review B, 1999, 59, 2841-2847.	1.1	4
117	Superconducting critical temperature and singlet and triplet pair functions of superconductor/normal-metal/ferromagnet trilayers. Physical Review B, 2007, 75, .	1.1	4
118	Switching phase diagrams of current-induced magnetization switching in asymmetric MgO-based magnetic tunnel junctions. Journal Physics D: Applied Physics, 2011, 44, 064008.	1.3	4
119	Spin transfer torque and tunneling magnetoresistance dependences on finite bias voltages and insulator barrier energy. Thin Solid Films, 2011, 519, 8247-8251.	0.8	4
120	Electronic interferometer capacitively coupled to a quantum dot. Physical Review B, 2009, 80, .	1.1	3
121	Intrinsic spin-orbit torque in an antiferromagnet with a weakly noncollinear spin configuration. Physical Review B, 2018, 97, .	1.1	3
122	Interfacial spin-flip-generated charge pumping. Physical Review Research, 2021, 3, .	1.3	2
123	Greenâ€™s function approach to adiabatic charge-pumping induced by interfacial spin-flip potential. Journal of the Korean Physical Society, 2021, 78, 1215-1220.	0.3	2
124	Orientational dependence of intrinsic orbital and spin Hall effects in hcp structure materials. Physical Review B, 2022, 105, .	1.1	2
125	Chiral anomaly in noncentrosymmetric systems induced by spin-orbit coupling. Physical Review B, 2022, 105, .	1.1	2
126	In-plane optical phonon modes of current-carrying graphene. Physical Review B, 2022, 105, .	1.1	2

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127	Spin-current-induced charge current. <i>Physical Review B</i> , 2005, 71, .	1.1	1
128	Branching-induced spin polarization amplification in nonmagnetic semiconductors. <i>Physica Status Solidi C: Current Topics in Solid State Physics</i> , 2006, 3, 4313-4316.	0.8	1
129	Thermal fluctuation field for current-induced domain wall motion. <i>Physical Review B</i> , 2010, 82, .	1.1	1
130	Publisher's Note: Magnetic domain wall motion in a nanowire: Depinning and creep [Phys. Rev. B84, 075469 (2011)]. <i>Physical Review B</i> , 2011, 84, .	1.1	1
131	Electrical Detection of Polarity and Chirality of a Magnetic Vortex Using Spin-Motive Force Caused by Rashba Spin-Orbit Coupling. <i>Applied Physics Express</i> , 2012, 5, 123002.	1.1	1
132	Spin-orbit torque from spin-flipping scattering at ferromagnetic metal/topological insulator interface. <i>Current Applied Physics</i> , 2019, 19, 241-245.	1.1	1
133	Ferromagnetic Materials: Gigantic Current Control of Coercive Field and Magnetic Memory Based on Nanometer-Thin Ferromagnetic van der Waals Fe_3GeTe_2 (<i>Adv. Mater.</i> 4/2021). <i>Advanced Materials</i> , 2021, 33, 2170029.	11.1	1
134	Anomalous Velocity Operator in a Multi-Particle Dirac System with Electron-Electron Interactions. <i>Journal of the Korean Physical Society</i> , 2008, 53, 3584-3587.	0.3	1
135	Spin Transfer Torque in Ferromagnet-Normal Metal-Antiferromagnet Junctions. <i>Journal of Magnetism</i> , 2011, 16, 92-96.	0.2	1
136	Multi-orbit tight binding calculations for spin transfer torque in magnetic tunneling junctions. <i>Journal of Applied Physics</i> , 2012, 111, 07C904.	1.1	0
137	Current-induced modification of spin wave mode interference. <i>Current Applied Physics</i> , 2014, 14, 182-186.	1.1	0
138	Effects of Nonmagnetic Impurity Scattering in a Ferromagnet with Inhomogeneous Magnetization. <i>Journal of the Korean Physical Society</i> , 2008, 53, 1030-1033.	0.3	0
139	Nonlocal Spin Transport in Lateral Spin Valves with Multiple Ferromagnetic Electrodes. <i>Journal of the Korean Physical Society</i> , 2008, 53, 973-978.	0.3	0
140	Phase Locking in a Nonballistic Multichannel Spin Field-Effect Transistor with an External Magnetic Field. <i>Journal of the Korean Physical Society</i> , 2008, 53, 1020-1023.	0.3	0
141	Suppression of Spin Dephasing in a Two-Dimensional Electron Gas with a Quantum Point Contact. <i>Journal of Magnetism</i> , 2010, 15, 7-11.	0.2	0
142	Perpendicular Spin-transfer Torque in Asymmetric Magnetic Tunnel Junctions: Material Parameter Dependence. <i>Journal of the Korean Magnetism Society</i> , 2011, 21, 52-55.	0.0	0
143	Understanding Spin-orbit Torque, Anomalous Hall Effect, and Spin Hall Effect from the Gauge Transformation. <i>Journal of the Korean Magnetism Society</i> , 2017, 27, 185-189.	0.0	0
144	Large damping-like spin-orbit torque in a ferromagnet/topological insulator bilayer from localized interfacial states. <i>Journal of the Korean Physical Society</i> , 2022, 80, 241-246.	0.3	0