

Masashi Shiraishi

List of Publications by Year in descending order

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149
papers

6,727
citations

81839

39
h-index

66879

78
g-index

153
all docs

153
docs citations

153
times ranked

7216
citing authors

#	ARTICLE	IF	CITATIONS
1	Large voltage-induced magnetic anisotropy change in a few atomic layers of iron. Nature Nanotechnology, 2009, 4, 158-161.	15.6	1,140
2	Stable and controlled amphoteric doping by encapsulation of organic molecules inside carbon nanotubes. Nature Materials, 2003, 2, 683-688.	13.3	520
3	Work function of carbon nanotubes. Carbon, 2001, 39, 1913-1917.	5.4	467
4	Voltage-induced perpendicular magnetic anisotropy change in magnetic tunnel junctions. Applied Physics Letters, 2010, 96, .	1.5	228
5	Voltage-Assisted Magnetization Switching in Ultrathin Fe ₈₀ Co ₂₀ Alloy Layers. Applied Physics Express, 0, 2, 063001.	1.1	190
6	Spin Injection into a Graphene Thin Film at Room Temperature. Japanese Journal of Applied Physics, 2007, 46, L605-L607.	0.8	182
7	Room-Temperature Electron Spin Transport in a Highly Doped Si Channel. Applied Physics Express, 2011, 4, 023003.	1.1	177
8	Spin-Pump-Induced Spin Transport in p -Type Si at Room Temperature. Physical Review Letters, 2013, 110, 127201.	2.9	162
9	Electrical Detection of the Spin Polarization Due to Charge Flow in the Surface State of the Topological Insulator Bi _{1.5} Sb _{0.5} Te _{1.7} Se _{1.3} . Nano Letters, 2014, 14, 6226-6230.	4.5	144
10	Strong Anisotropy in the Far-Infrared Absorption Spectra of Stretch-Aligned Single-Walled Carbon Nanotubes. Advanced Materials, 2006, 18, 1166-1169.	11.1	133
11	Graphene: Piecing it Together. Advanced Materials, 2011, 23, 4471-4490.	11.1	127
12	Self-induced inverse spin Hall effect in permalloy at room temperature. Physical Review B, 2014, 89, .	1.1	113
13	Gas-solid interactions in the hydrogen/single-walled carbon nanotube system. Chemical Physics Letters, 2003, 367, 633-636.	1.2	102
14	Hydrogen storage in single-walled carbon nanotube bundles and peapods. Chemical Physics Letters, 2002, 358, 213-218.	1.2	97
15	Control of Carrier Density by a Solution Method in Carbon-Nanotube Devices. Advanced Materials, 2005, 17, 2430-2434.	11.1	89
16	Spin Transport in Nondegenerate Si with a Spin MOSFET Structure at Room Temperature. Physical Review Applied, 2014, 2, .	1.5	86
17	Experimental Demonstration of Room-Temperature Spin Transport in n -Type Germanium Epilayers. Physical Review Letters, 2015, 114, 196602.	2.9	85
18	Temperature dependence of spin diffusion length in silicon by Hanle-type spin precession. Applied Physics Letters, 2010, 96, .	1.5	83

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19	Single-walled carbon nanotube aggregates for solution-processed field effect transistors. <i>Chemical Physics Letters</i> , 2004, 394, 110-113.	1.2	75
20	Ink-Jet Printing of Carbon Nanotube Thin-Film Transistors on Flexible Plastic Substrates. <i>Applied Physics Express</i> , 0, 2, 025005.	1.1	75
21	Spin conversion on the nanoscale. <i>Nature Physics</i> , 2017, 13, 829-832.	6.5	75
22	Electrical Spin Injection into Silicon Using MgO Tunnel Barrier. <i>Applied Physics Express</i> , 0, 2, 053003.	1.1	74
23	Robustness of Spin Polarization in Graphene-Based Spin Valves. <i>Advanced Functional Materials</i> , 2009, 19, 3711-3716.	7.8	70
24	Gate-Tunable Spin-Charge Conversion and the Role of Spin-Orbit Interaction in Graphene. <i>Physical Review Letters</i> , 2016, 116, 166102.	2.9	70
25	Hydrogen adsorption and desorption in carbon nanotube systems and its mechanisms. <i>Applied Physics A: Materials Science and Processing</i> , 2004, 78, 947-953.	1.1	68
26	Molecular spintronics. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , 2011, 43, 1295-1317.	1.3	67
27	Room-temperature operation of Si spin MOSFET with high on/off spin signal ratio. <i>Applied Physics Express</i> , 2015, 8, 113004.	1.1	63
28	Dynamically generated pure spin current in single-layer graphene. <i>Physical Review B</i> , 2013, 87, .	1.1	62
29	Comparison of spin signals in silicon between nonlocal four-terminal and three-terminal methods. <i>Applied Physics Letters</i> , 2011, 98, .	1.5	61
30	Investigation of the inverted Hanle effect in highly doped Si. <i>Physical Review B</i> , 2012, 86, .	1.1	57
31	Switching of charge-current-induced spin polarization in the topological insulator Bi_2SbTe . <i>Physical Review B</i> , 2016, 94, .		
32	Strong evidence for d-electron spin transport at room temperature at a $\text{LaAlO}_3/\text{SrTiO}_3$ interface. <i>Nature Materials</i> , 2017, 16, 609-614.	13.3	55
33	Conduction mechanisms in single-walled carbon nanotubes. <i>Synthetic Metals</i> , 2002, 128, 235-239.	2.1	52
34	Tunable inverse spin Hall effect in nanometer-thick platinum films by ionic gating. <i>Nature Communications</i> , 2018, 9, 3118.	5.8	52
35	Tunnel magnetoresistance of C_60 nanocomposites and spin-dependent transport in organic semiconductors. <i>Physical Review B</i> , 2007, 76, .	1.1	49
36	Local magnetoresistance in $\text{Fe}/\text{MgO}/\text{Si}$ lateral spin valve at room temperature. <i>Applied Physics Letters</i> , 2014, 104, .	1.5	49

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37	Dense hydrogen adsorption on carbon subnanopores at 77 K. Applied Physics Letters, 2003, 83, 3392-3394.	1.5	48
38	Transfer characteristics in graphene field-effect transistors with Co contacts. Applied Physics Letters, 2008, 93, 152104.	1.5	47
39	Evidence of Electrical Spin Injection Into Silicon Using MgO Tunnel Barrier. IEEE Transactions on Magnetics, 2010, 46, 1436-1439.	1.2	47
40	Spin to Charge Interconversion Phenomena in the Interface and Surface States. Journal of the Physical Society of Japan, 2017, 86, 011001.	0.7	43
41	Giant spin Hall angle in the Heusler alloy Weyl ferromagnet Co_2MnSi . Physical Review B, 2021, 103, .	1.2	42
42	Transport and spin conversion of multicarriers in semimetal bismuth. Physical Review B, 2016, 93, .	1.1	41
43	Dynamical Spin Injection into p-Type Germanium at Room Temperature. Applied Physics Express, 2013, 6, 023001.	1.1	39
44	Tunneling spectra of sputter-deposited CoFeB/MgO/CoFeB magnetic tunnel junctions showing giant tunneling magnetoresistance effect. Solid State Communications, 2005, 136, 611-615.	0.9	36
45	Spectroscopic characterization of single-walled carbon nanotubes carrier-doped by encapsulation of TCNQ. Physical Review B, 2005, 71, .	1.1	34
46	Spin-Dependent Transport in C60-Co Nano-Composites. Japanese Journal of Applied Physics, 2006, 45, L717-L719.	0.8	33
47	Giant enhancement of spin pumping efficiency using Fe ₃ Si ferromagnet. Physical Review B, 2013, 88, .	1.1	33
48	Effect of spin drift on spin accumulation voltages in highly doped silicon. Applied Physics Letters, 2012, 101, .	1.5	32
49	Spin transport properties in silicon in a nonlocal geometry. Physical Review B, 2011, 83, .	1.1	31
50	Observation of large spin accumulation voltages in nondegenerate Si spin devices due to spin drift effect: Experiments and theory. Physical Review B, 2016, 93, .	1.1	29
51	Electronic structures of fullerenes and metallofullerenes studied by surface potential analysis. Physical Review B, 2003, 68, .	1.1	28
52	Solution-Processed Single-Walled Carbon Nanotube Transistors with High Mobility and Large On/Off Ratio. Japanese Journal of Applied Physics, 2006, 45, 6524-6527.	0.8	28
53	Quantitative investigation of the inverse Rashba-Edelstein effect in Bi/Ag and Ag/Bi on YIG. Applied Physics Letters, 2017, 110, .	1.5	28
54	Local and non-local magnetoresistance with spin precession in highly doped Si. Applied Physics Letters, 2011, 98, .	1.5	27

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55	Spin-dependent transport in nanocomposites of Alq ₃ molecules and cobalt nanoparticles. Applied Physics Letters, 2007, 91, 063123.	1.5	26
56	Spin drift in highly doped n-type Si. Applied Physics Letters, 2014, 104, 092409.	1.5	26
57	Surface Shubnikov-de Haas oscillations and nonzero Berry phases of the topological hole conduction in Tl _{1-x} Bi _{1+x} Se ₂ . Physical Review B, 2014, 90, .	1.1	26
58	Logic circuits using solution-processed single-walled carbon nanotube transistors. Applied Physics Letters, 2008, 92, 253507.	1.5	25
59	Large magnetoresistance in rubrene-Co nano-composites. Chemical Physics Letters, 2007, 448, 106-110.	1.2	24
60	Tomonaga-Luttinger-liquid behavior in single-walled carbon nanotube networks. Solid State Communications, 2003, 127, 215-218.	0.9	23
61	Dependence on annealing temperatures of tunneling spectra in high-resistance CoFeB/MgO/CoFeB magnetic tunnel junctions. Solid State Communications, 2007, 143, 574-578.	0.9	23
62	Observation of spin-charge conversion in chemical-vapor-deposition-grown single-layer graphene. Applied Physics Letters, 2014, 105, .	1.5	23
63	Voltage control of in-plane magnetic anisotropy in ultrathin Fe ⁿ -GaAs(001) Schottky junctions. Applied Physics Letters, 2009, 94, .	1.5	21
64	Temperature Dependence of Spin Hall Angle of Palladium. Applied Physics Express, 2013, 6, 083001.	1.1	21
65	Vertical spin transport in Al with Pd/Al/Ni ₈₀ Fe ₂₀ trilayer films at room temperature by spin pumping. Scientific Reports, 2013, 3, .	1.6	21
66	Spin transport and spin conversion in compound semiconductor with non-negligible spin-orbit interaction. Physical Review B, 2015, 91, .	1.1	20
67	Tunable spin current due to bulk insulating property in the topological insulator Tl _{1-x} Bi _{1+x} Se ₂ . Physical Review B, 2015, 91, .	1.1	20
68	Control of injected carriers in tetracyano-p-quinodimethane encapsulated carbon nanotube transistors. Applied Physics Letters, 2005, 87, 093107.	1.5	19
69	Conversion of pure spin current to charge current in amorphous bismuth. Journal of Applied Physics, 2014, 115, 17C507.	1.1	19
70	Enhanced magnetoresistance due to charging effects in a molecular nanocomposite spin device. Physical Review B, 2009, 79, .	1.1	17
71	Coupled-Mode Excitations Induced in an Antiferromagnetically Coupled Multilayer by Spin-Transfer Torque. Applied Physics Express, 2010, 3, 033001.	1.1	17
72	Significant reduction in spin pumping efficiency in a platinum/yttrium iron garnet bilayer at low temperature. Applied Physics Express, 2016, 9, 053002.	1.1	17

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73	Inelastic tunneling spectra of MgO barrier magnetic tunneling junctions showing large magnon contribution. <i>Journal of Applied Physics</i> , 2009, 105, .	1.1	16
74	Note: Derivative divide, a method for the analysis of broadband ferromagnetic resonance in the frequency domain. <i>Review of Scientific Instruments</i> , 2018, 89, 076101.	0.6	16
75	Gigantic Optical Stark Effect and Ultrafast Relaxation of Excitons in Single-Walled Carbon Nanotubes. <i>Journal of the Physical Society of Japan</i> , 2006, 75, 043709.	0.7	15
76	Spin-transfer-torque-induced ferromagnetic resonance for Fe/Cr/Fe layers with an antiferromagnetic coupling field. <i>Applied Physics Letters</i> , 2009, 94, .	1.5	15
77	Quantitative and systematic analysis of bias dependence of spin accumulation voltage in a nondegenerate Si-based spin valve. <i>Physical Review B</i> , 2019, 99, .	1.1	14
78	Ambipolar single electron transistors using side-contacted single-walled carbon nanotubes. <i>Chemical Physics Letters</i> , 2006, 417, 540-544.	1.2	13
79	Improvements in the device characteristics of random-network single-walled carbon nanotube transistors by using high- κ gate insulators. <i>Applied Physics Letters</i> , 2006, 89, 203505.	1.5	13
80	Nuclear Magnetic Resonance of Molecular Hydrogen Trapped in Single-Walled Carbon Nanotube Bundles. <i>Journal of Nanoscience and Nanotechnology</i> , 2002, 2, 463-465.	0.9	12
81	Electronic mean free path in as-produced and purified single-wall carbon nanotubes. <i>Applied Physics Letters</i> , 2005, 86, 122106.	1.5	11
82	Band structure modulation by carrier doping in random-network carbon nanotube transistors. <i>Applied Physics Letters</i> , 2006, 89, 013112.	1.5	11
83	Spin-orbit coupling induced by bismuth doping in silicon thin films. <i>Applied Physics Letters</i> , 2018, 113, .	1.5	11
84	Spin-wave-induced lateral temperature gradient in a YIG thin film/GGG system excited in an ESR cavity. <i>Applied Physics Letters</i> , 2018, 112, .	1.5	11
85	Synthetic Rashba spin-orbit system using a silicon metal-oxide semiconductor. <i>Nature Materials</i> , 2021, 20, 1228-1232.	13.3	11
86	The characterization of plasma-polymerized C 60 thin films. <i>Applied Physics A: Materials Science and Processing</i> , 2002, 74, 613-616.	1.1	10
87	Precise determination of two-carrier transport properties in the topological insulator TlBiSe_2 . <i>Physical Review B</i> , 2015, 91, .		
88	Ferromagnetic resonance and spin pumping efficiency for inverse spin-Hall effect normalization in yttrium-iron-garnet-based systems. <i>Applied Physics Express</i> , 2015, 8, 103002.	1.1	10
89	Investigation of spin scattering mechanism in silicon channels of Fe/MgO/Si lateral spin valves. <i>Applied Physics Letters</i> , 2017, 110, 192401.	1.5	10
90	Over 1% magnetoresistance ratio at room temperature in non-degenerate silicon-based lateral spin valves. <i>Applied Physics Express</i> , 2020, 13, 083002.	1.1	10

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91	Analysis of Degradation in Graphene-Based Spin Valves. Applied Physics Express, 2009, 2, 123004.	1.1	9
92	Spin injection into silicon detected by broadband ferromagnetic resonance spectroscopy. Applied Physics Letters, 2017, 110, 182402.	1.5	9
93	Monolayer MoS2 field effect transistor with low Schottky barrier height with ferromagnetic metal contacts. Scientific Reports, 2019, 9, 17032.	1.6	9
94	In-plane spin-orbit torque magnetization switching and its detection using the spin rectification effect at subgigahertz frequencies. Physical Review B, 2020, 102, .	1.1	9
95	Tunneling spectroscopy of magnetic tunnel junctions: Comparison between CoFeB/MgO/CoFeB and CoFeB/Al ₂ O ₃ /CoFeB. Journal of Applied Physics, 2006, 99, 08T309.	1.1	8
96	Optical Observation of Carrier Accumulation in Single-Walled Carbon Nanotube Transistors. Japanese Journal of Applied Physics, 2006, 45, L1190-L1192.	0.8	8
97	Structural Study of Single-Walled Carbon Nanotube Films Doped by a Solution Method. Journal of Nanoscience and Nanotechnology, 2007, 7, 3533-3536.	0.9	8
98	rf amplification in a three-terminal magnetic tunnel junction with a magnetic vortex structure. Applied Physics Letters, 2009, 95, 022513.	1.5	8
99	Investigation of gating effect in Si spin MOSFET. Applied Physics Letters, 2020, 116, .	1.5	8
100	Approaching barrier-free contacts to monolayer MoS2 employing [Co/Pt] multilayer electrodes. NPG Asia Materials, 2021, 13, .	3.8	8
101	Differential conductance measurements of low-resistance CoFeB/MgO/CoFeB magnetic tunnel junctions. Journal of Magnetism and Magnetic Materials, 2007, 310, e649-e651.	1.0	7
102	Investigation of Spin-Dependent Transport Properties and Spin-Spin Interactions in a Copper-Phthalocyanine/Cobalt Nanocomposite System. Japanese Journal of Applied Physics, 2010, 49, 033002.	0.8	7
103	Gate-Tunable Spin xor Operation in a Silicon-Based Device at Room Temperature. Physical Review Applied, 2020, 13, .	1.5	7
104	Surface potential analyses of single-walled carbon nanotube/metal interfaces. Journal of Applied Physics, 2007, 101, 014311.	1.1	6
105	A nuclear magnetic resonance study on rubrene-cobalt nanocomposites. Applied Physics Letters, 2008, 93, 053103.	1.5	6
106	Spin transport in single- and multi-layer graphene. , 2009, , .		6
107	Observation of Magnetic-Switching and Multiferroic-Like Behavior of Co Nanoparticles in a C ₆₀ Matrix. Advanced Functional Materials, 2012, 22, 3845-3852.	7.8	6
108	Temperature evolution of electromotive force from Pt on yttrium-iron-garnet under ferromagnetic resonance. Journal of Applied Physics, 2015, 117, 17D136.	1.1	6

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109	Thermally Generated Spin Signals in a Nondegenerate Silicon Spin Valve. <i>Physical Review Applied</i> , 2018, 9, .	1.5	6
110	Efficient room-temperature magnetization direction detection by means of the enhanced anomalous Nernst effect in a Weyl ferromagnet. <i>Physical Review Materials</i> , 2022, 6, .	0.9	6
111	Electrolysis of Water Vapor Using a Fullerene-Based Electrolyte. <i>Electrochemical and Solid-State Letters</i> , 2002, 5, A74.	2.2	5
112	Electrical investigation of the interface band structure in rubrene single-crystal/nickel junction. <i>Applied Physics Letters</i> , 2011, 99, 043505.	1.5	5
113	Realization of ohmic-like contact between ferromagnet and rubrene single crystal. <i>Applied Physics Letters</i> , 2012, 101, 073501.	1.5	5
114	Sizable spin-transfer torque in the Bi/Ni80Fe20 bilayer film. <i>Applied Physics Letters</i> , 2020, 117, .	1.5	4
115	Enhancement of spin signals by thermal annealing in silicon-based lateral spin valves. <i>AIP Advances</i> , 2020, 10, 095021.	0.6	4
116	Modulation of spin conversion in a 1.5-Å-thick Pd film by ionic gating. <i>Applied Physics Letters</i> , 2020, 117, 092406.	1.5	4
117	Electrically-Generated Pure Spin Current in Graphene. <i>Japanese Journal of Applied Physics</i> , 2012, 51, 08KA01.	0.8	4
118	Current-induced out-of-plane torques in a single permalloy layer with lateral structural asymmetry. <i>Physical Review B</i> , 2022, 105, .	1.1	4
119	Spin Injection into Graphene at Room Temperature. <i>Hyomen Kagaku</i> , 2008, 29, 310-314.	0.0	3
120	Stability of spin XOR gate operation in silicon based lateral spin device with large variations in spin transport parameters. <i>AIP Advances</i> , 2019, 9, 125326.	0.6	3
121	Spin transport in n-type 3C-SiC observed in a lateral spin-pumping device. <i>Solid State Communications</i> , 2020, 305, 113754.	0.9	3
122	Spin transport in a lateral spin valve with a suspended Cu channel. <i>Scientific Reports</i> , 2020, 10, 10699.	1.6	3
123	Detection of ferromagnetic resonance from 1-Å-thick Co. <i>Scientific Reports</i> , 2020, 10, 15764.	1.6	3
124	Coexistence of low-frequency spin-torque ferromagnetic resonance and unidirectional spin Hall magnetoresistance. <i>Physical Review B</i> , 2021, 104, .	1.1	3
125	Modulation of spin-torque ferromagnetic resonance with a nanometer-thick platinum by ionic gating. <i>Scientific Reports</i> , 2021, 11, 21779.	1.6	3
126	Influence of adjacent metal films on magnon propagation in $Y_3Fe_5O_{12}$. <i>Physical Review B</i> , 2022, 105, .		

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127	Solution-Processed Fabrication of Single-Walled Carbon Nanotube Field Effect Transistors. Fullerenes Nanotubes and Carbon Nanostructures, 2005, 13, 485-489.	1.0	2
128	Observation of weak temperature dependence of spin diffusion length in highly-doped Si by using a non-local 3-terminal method. Journal of Applied Physics, 2012, 111, 07C322.	1.1	2
129	Spin to charge conversion in Si/Cu/ferromagnet systems investigated by ac inductive measurements. Physical Review B, 2021, 103, .	1.1	2
130	Graphene Spintronics. Hyomen Kagaku, 2010, 31, 162-168.	0.0	1
131	Characterization of MgO Thin Films Grown on Carbon Materials by Molecular Beam Epitaxy. Japanese Journal of Applied Physics, 2013, 52, 070208.	0.8	1
132	Correlation of Microstructure and Transport Properties of Multilayered Graphene Spin Valves on SiO ₂ /Si. Journal of Physics: Conference Series, 2013, 471, 012048.	0.3	1
133	Enhancement of low-frequency spin-orbit-torque ferromagnetic resonance signals by frequency tuning observed in Pt/Py, Pt/Co, and Pt/Fe bilayers. AIP Advances, 2021, 11, 025206.	0.6	1
134	Investigation of the thermal tolerance of silicon-based lateral spin valves. Scientific Reports, 2021, 11, 10583.	1.6	1
135	Observation of a superconducting state of a topological superconductor candidate, FeTe _{0.6} Se _{0.4} , equipping ferromagnetic electrodes with perpendicular magnetic anisotropy. Applied Physics Express, 2021, 14, 093002.	1.1	1
136	Electrical transport properties of atomically thin WSe ₂ using perpendicular magnetic anisotropy metal contacts. Applied Physics Letters, 2022, 120, .	1.5	1
137	Full calculation of inter-conversion between charge, spin, and heat current using a common partial differential equation platform. Journal of Applied Physics, 2022, 131, 243903.	1.1	1
138	Synthesis of organics/SWNT compounds. AIP Conference Proceedings, 2003, , .	0.3	0
139	Characterization of SWNT-Thin-Film Transistors. AIP Conference Proceedings, 2005, , .	0.3	0
140	Detection of current-driven magnetic domain wall deformation using anisotropic magnetoresistance effect. Physica Status Solidi (A) Applications and Materials Science, 2007, 204, 3987-3990.	0.8	0
141	Variation of the perpendicular magnetic anisotropy with bias voltage in ultra thin ferromagnetic layers. , 2010, , .		0
142	Observation of a tunneling magnetoresistance effect in magnetic tunneling junctions with a high resistance ferromagnetic oxide Fe ₂ MnO ₅ electrode. Solid State Communications, 2011, 151, 1296-1299.	0.9	0
143	Graphene spintronics. , 2014, , 324-340.		0
144	IEEE Magnetics Society Distinguished Lecturers for 2020. IEEE Transactions on Magnetics, 2019, 55, 1-4.	1.2	0

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145	Ferromagnetic resonance imbalance at high microwave power: Effect on the Gilbert damping parameter. Journal of Applied Physics, 2019, 126, .	1.1	0
146	Silicon Spintronics for Electronic Devices. , 2021, , .		0
147	Electrical Detection of Changes in Voltage-induced Magnetic Anisotropy in Magnetic Tunnel Junctions. Journal of the Magnetism Society of Japan, 2010, 34, 289-292.	0.5	0
148	Graphene spintronics. , 2014, , 117-132.		0
149	Spin Transport and Spin Conversion at Room Temperature in Exotic Materials Systems. Journal of the Institute of Electrical Engineers of Japan, 2019, 139, 668-673.	0.0	0