Satoru Hayami

List of Publications by Year
in descending order

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95 papers	3,717 citations	94433 37 h-index	144013 57 g-index
96 all docs	96 docs citations	96 times ranked	1204 citing authors

#	Article	IF	Citations
1	Ginzburg-Landau theory for skyrmions in inversion-symmetric magnets with competing interactions. Physical Review B, 2016, 93, .	3.2	198
2	Zero-Field Skyrmions with a High Topological Number in Itinerant Magnets. Physical Review Letters, 2017, 118, 147205.	7.8	158
3	Effective bilinear-biquadratic model for noncoplanar ordering in itinerant magnets. Physical Review B, 2017, 95, .	3.2	157
4	Frustration and chiral orderings in correlated electron systems. Reports on Progress in Physics, 2016, 79, 084504.	20.1	142
5	Classification of atomic-scale multipoles under crystallographic point groups and application to linear response tensors. Physical Review B, 2018, 98, .	3.2	140
6	Bubble and skyrmion crystals in frustrated magnets with easy-axis anisotropy. Physical Review B, 2016, 93, .	3.2	138
7	Toroidal order in metals without local inversion symmetry. Physical Review B, 2014, 90, .	3.2	115
8	Vortex Crystals with Chiral Stripes in Itinerant Magnets. Journal of the Physical Society of Japan, 2016, 85, 103703.	1.6	85
9	Spin current generation in organic antiferromagnets. Nature Communications, 2019, 10, 4305.	12.8	79
10	Momentum-Dependent Spin Splitting by Collinear Antiferromagnetic Ordering. Journal of the Physical Society of Japan, 2019, 88, .	1.6	79
11	Bottom-up design of spin-split and reshaped electronic band structures in antiferromagnets without spin-orbit coupling: Procedure on the basis of augmented multipoles. Physical Review B, 2020, 102, .	3.2	78
12	Square skyrmion crystal in centrosymmetric itinerant magnets. Physical Review B, 2021, 103, .	3.2	76
13	Multiple-<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi>Q</mml:mi></mml:mrow></mml:math>instability by<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mo>(</mml:mo><mml:mrow><mml:mi>d</mml:mi><mml:mo>â^'</mml:mo></mml:mrow></mml:math>connections of Fermi surfaces. Physical Review B, 2014, 90, .	3.2	75
14	Imaging the coupling between itinerant electrons and localised moments in the centrosymmetric skyrmion magnet GdRu2Si2. Nature Communications, 2020, 11, 5925.	12.8	75
15	NÃ©el- and Bloch-Type Magnetic Vortices in Rashba Metals. Physical Review Letters, 2018, 121, 137202.	7.8	68
16	Magnetic hedgehog lattices in noncentrosymmetric metals. Physical Review B, 2020, 101, .	3.2	67
17	Square and rhombic lattices of magnetic skyrmions in a centrosymmetric binary compound. Nature Communications, 2022, 13, 1472.	12.8	65
18	Effect of magnetic anisotropy on skyrmions with a high topological number in itinerant magnets. Physical Review B, 2019, 99, .	3.2	63

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19	Topological spin crystals by itinerant frustration. Journal of Physics Condensed Matter, 2021, 33, 443001.	1.8	60
20	Multipole expansion for magnetic structures: A generation scheme for a symmetry-adapted orthonormal basis set in the crystallographic point group. Physical Review B, 2019, 99, .	3.2	59
21	Microscopic Description of Electric and Magnetic Toroidal Multipoles in Hybrid Orbitals. Journal of the Physical Society of Japan, 2018, 87, 033709.	1.6	58
22	Noncoplanar multiple- <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mi>Q</mml:mi></mml:math> spin textures by itinerant frustration: Effects of single-ion anisotropy and bond-dependent anisotropy. Physical Review B, 2021, 103, .	3.2	51
23	Nanometric skyrmion lattice from anisotropic exchange interactions in a centrosymmetric host. New Journal of Physics, 2021, 23, 023039.	2.9	50
24	Emergent spin-valley-orbital physics by spontaneous parity breaking. Journal of Physics Condensed Matter, 2016, 28, 395601.	1.8	48
25	Multiple- q noncollinear magnetism in an itinerant hexagonal magnet. Science Advances, 2018, 4, eaau3402.	10.3	47
26	Electric Toroidal Quadrupoles in the Spin-Orbit-Coupled Metal <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow><mml:mi>Cd</mml:mi></mml:mrow><mml:mrow><mml:mn>2</mml:mn></mml:mrow></mml:msub><mml:msub><mml:mrow><mml:mi mathvariant="normal">O</mml:mi></mml:mrow><mml:mrow><mml:mn>7</mml:mn></mml:mrow></mml:msub></m. Physical Review Letters, 2019, 122, 147602.	7.8	47
27	Skyrmion crystals in centrosymmetric itinerant magnets without horizontal mirror plane. Scientific Reports, 2021, 11, 11184.	3.3	46
28	Spontaneous parity breaking in spin-orbital coupled systems. Physical Review B, 2014, 90, .	3.2	44
29	Spontaneous Multipole Ordering by Local Parity Mixing. Journal of the Physical Society of Japan, 2015, 84, 064717.	1.6	44
30	Asymmetric Magnon Excitation by Spontaneous Toroidal Ordering. Journal of the Physical Society of Japan, 2016, 85, 053705.	1.6	44
31	Spontaneous antisymmetric spin splitting in noncollinear antiferromagnets without spin-orbit coupling. Physical Review B, 2020, 101, .	3.2	44
32	Multipole classification in 122 magnetic point groups for unified understanding of multiferroic responses and transport phenomena. Physical Review B, 2021, 104, .	3.2	42
33	Zoology of Multipleâ€Q Spin Textures in a Centrosymmetric Tetragonal Magnet with Itinerant Electrons. Advanced Science, 2022, 9, e2105452.	11.2	42
34	Vortices, skyrmions, and chirality waves in frustrated Mott insulators with a quenched periodic array of impurities. Physical Review B, 2016, 94, .	3.2	41
35	Phase shift in skyrmion crystals. Nature Communications, 2021, 12, 6927.	12.8	41
36	Degeneracy Lifting of NÃ©el, Bloch, and Anti-Skyrmion Crystals in Centrosymmetric Tetragonal Systems. Journal of the Physical Society of Japan, 2020, 89, 103702.	1.6	39

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37	Field-Direction Sensitive Skyrmion Crystals in Cubic Chiral Systems: Implication to 4f-Electron Compound EuPtSi. Journal of the Physical Society of Japan, 2021, 90, 073705.	1.6	39
38	Manipulating the magnetoelectric effect: Essence learned from Co4Nb2O9. Physical Review B, 2018, 97, .	3.2	38
39	Anomalous Hall effect in <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mi>Î</mml:mi></mml:math> -type organic	3.2	35
40	Emergent odd-parity multipoles and magnetoelectric effects on a diamond structure: Implication for the <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mn>5</mml:mn><mml:mi>d</mml:mi></mml:mrow></mml:m transition metal oxides <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi>A</mml:mi><mml:msub><mml:mi>OsO</mml:mi><mml:m		

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55	Essential role of the anisotropic magnetic dipole in the anomalous Hall effect. Physical Review B, 2021, 103, .	3.2	23
56	Skyrmion crystal and spiral phases in centrosymmetric bilayer magnets with staggered Dzyaloshinskii-Moriya interaction. Physical Review B, 2022, 105, .	3.2	22
57	Topological semimetal-to-insulator phase transition between noncollinear and noncoplanar multiple-Qstates on a square-to-triangular lattice. Physical Review B, 2015, 91, .	3.2	21
58	Analysis of model-parameter dependences on the second-order nonlinear conductivity in <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mi mathvariant="script">PT</mml:mi></mml:math> -symmetric collinear antiferromagnetic metals with magnetic toroidal moment on zigzag chains. Physical Review B, 2022, 105, .	3.2	21
59	Rectangular and square skyrmion crystals on a centrosymmetric square lattice with easy-axis anisotropy. Physical Review B, 2022, 105, .	3.2	21
60	Temperature-driven transition from skyrmion to bubble crystals in centrosymmetric itinerant magnets. New Journal of Physics, 0, , .	2.9	20
61	Spin-texture-driven electrical transport in multi-Q antiferromagnets. Communications Physics, 2021, 4, .	5.3	19
62	First Observation of Superlattice Reflections in the Hidden Order at 105 K of Spinâ€“Orbit Coupled Iridium Oxide Ca5Ir3O12. Journal of the Physical Society of Japan, 2021, 90, 063702.	1.6	18
63	Helicity locking of a square skyrmion crystal in a centrosymmetric lattice system without vertical mirror symmetry. Physical Review B, 2022, 105, .	3.2	18
64	Nonlinear spin Hall effect in <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mi mathvariant="script">PT</mml:mi></mml:math> -symmetric collinear magnets. Physical Review B, 2022, 106, .	3.2	18
65	NQR and NMR spectra in the odd-parity multipole material CeCoSi. Physical Review B, 2020, 102, .	3.2	17
66	Theory of magnetoelectric response in Co4Nb2O9. Physica B: Condensed Matter, 2018, 536, 107-110.	2.7	16
67	Partial Disorder and Metalâ€“Insulator Transition in the Periodic Anderson Model on a Triangular Lattice. Journal of the Physical Society of Japan, 2012, 81, 103707.	1.6	15
68	Magnetic Vortex Induced by Nonmagnetic Impurity in Frustrated Magnets. Physical Review Letters, 2016, 116, 187202.	7.8	15
69	Spin-orbital-momentum locking under odd-parity magnetic quadrupole ordering. Physical Review B, 2021, 104, .	3.2	15
70	Skyrmion crystals in centrosymmetric triangular magnets under hexagonal and trigonal single-ion anisotropy. Journal of Magnetism and Magnetic Materials, 2022, 553, 169220.	2.3	15
71	Nonreciprocal magnon excitations by the Dzyaloshinskii-Moriya interaction on the basis of bond magnetic toroidal multipoles. Physical Review B, 2021, 104, .	3.2	14
72	Charge density waves in multiple- <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mi>Q</mml:mi></mml:math> spin states. Physical Review B, 2021, 104, .	3.2	14

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73	Antisymmetric thermopolarization by electric toroidicity. Physical Review B, 2022, 105, .	3.2	14
74	Shape of magnetic domain walls formed by coupling to mobile charges. Physical Review B, 2017, 96, .	3.2	13
75	Dimension transcendence and anomalous charge transport in magnets with moving multiple-<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mi>Q</mml:mi></mml:math> spin textures. Physical Review Research, 2020, 2, .	3.6	12
76	Mechanism of antisymmetric spin polarization in centrosymmetric multiple- <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mi>Q</mml:mi></mml:math> magnets based on effective chiral bilinear and biquadratic spin cross products. Physical Review B, 2022, 105, .	3.2	12
77	Toroidal order in a partially disordered state on a layered triangular lattice: implication to UNi₄B. Journal of Physics: Conference Series, 2015, 592, 012101.	0.4	11
78	Atomic-Scale Magnetic Toroidal Dipole under Odd-Parity Hybridization. Journal of the Physical Society of Japan, 2019, 88, 054708.	1.6	11
79	Tracing Monopoles and Anti-monopoles in a Magnetic Hedgehog Lattice. , 2020, , .		9
80	Multipole Description of Emergent Spinâ€“Orbit Interaction in Organic Antiferromagnet (kappa)-(BEDT-TTF)₂Cu[N(CN)₂]Cl. , 2020, , .		9
81	Essential model parameters for nonreciprocal magnons in multisublattice systems. Physical Review B, 2022, 105, .	3.2	9
82	Square skyrmion crystal in centrosymmetric systems with locally inversion-asymmetric layers. Journal of Physics Condensed Matter, 2022, 34, 365802.	1.8	9
83	Quantum spin Hall effect in a two-orbital model on a honeycomb lattice. Journal of Physics: Conference Series, 2015, 592, 012131.	0.4	8
84	Multiple-<inline-formula> <tex-math notation="LaTeX">${Q}$ </tex-math> </inline-formula> Magnetic States in Spinâ€“Orbit Coupled Metals. IEEE Transactions on Magnetics, 2019, 55, 1-7.	2.1	8
85	Spin Conductivity Based on Magnetic Toroidal Quadrupole Hidden in Antiferromagnets. Journal of the Physical Society of Japan, 2022, 91, .	1.6	8
86	Skyrmion crystal under <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi>D</mml:mi><mml:mrow><mml:mn>3</mml:mn></mml:mrow></mml:msub><mml:m point group: Role of out-of-plane Dzyaloshinskii-Moriya interaction. Physical Review B, 2022, 105, .	3.2	6
87	Charge Order with a Noncoplanar Triple-Q Magnetic Order on a Cubic Lattice. , 2014, , .		5
88	Antisymmetric Spinâ€“Orbit Interaction in a Locally Noncentrosymmetric CeFeSi-Type Structure. , 2020, , .		5
89	Skyrmion crystal with integer and fractional skyrmion numbers in a nonsymmorphic lattice structure with the screw axis. Physical Review B, 2022, 105, .	3.2	5
90	Carrier doping to a partially disordered state in the periodic Anderson model on a triangular lattice. Journal of Physics: Conference Series, 2012, 400, 032018.	0.4	4

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91	Mean-field study of correlation-induced antisymmetric spin-orbit coupling in a two-orbital honeycomb model. Physica B: Condensed Matter, 2018, 536, 649-653.	2.7	4
92	Magnetic Vortex Induced by Nonmagnetic Impurity in Ferromagnets: Magnetic Multipole and Toroidal around the Vacancy. Journal of the Physical Society of Japan, 2019, 88, 063702.	1.6	4
93	Antisymmetric Spin-Orbit Coupling in a d-p Model on a Zigzag Chain. Physics Procedia, 2015, 75, 419-425.	1.2	3
94	Rich Electronic Nematic Orderings Realized by Atomic-scale Electric Quadrupoles. JPSJ News and Comments, 2021, 18, 06.	0.1	1
95	Nematic Ordering Driven by Atomic-scale Multipoles. , 0, 1, .		0