

# Takahiro Morimoto

## List of Publications by Year in descending order

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Version: 2024-02-01

91  
papers

5,148  
citations

81900

39  
h-index

85541

71  
g-index

91  
all docs

91  
docs citations

91  
times ranked

4245  
citing authors

#	ARTICLE	IF	CITATIONS
1	Quantized circular photogalvanic effect in Weyl semimetals. Nature Communications, 2017, 8, 15995.	12.8	431
2	Topological nature of nonlinear optical effects in solids. Science Advances, 2016, 2, e1501524.	10.3	344
3	Giant anisotropic nonlinear optical response in transition metal monopnictide Weyl semimetals. Nature Physics, 2017, 13, 350-355.	16.7	325
4	Topological classification with additional symmetries from Clifford algebras. Physical Review B, 2013, 88, .	3.2	225
5	Large Bulk Photovoltaic Effect and Spontaneous Polarization of Single-Layer Monochalcogenides. Physical Review Letters, 2017, 119, 067402.	7.8	182
6	Classification of Interacting Topological Floquet Phases in One Dimension. Physical Review X, 2016, 6, .	8.9	181
7	Quantum Faraday and Kerr rotations in graphene. Nature Communications, 2013, 4, 1841.	12.8	167
8	Geometric Hall effects in topological insulator-heterostructures. Nature Physics, 2016, 12, 555-559.	16.7	146
9	Semiclassical theory of nonlinear magneto-optical responses with applications to topological Dirac/Weyl semimetals. Physical Review B, 2016, 94, .	3.2	132
10	Helicity-dependent photocurrents in the chiral Weyl semimetal RhSi. Science Advances, 2020, 6, eaba0509.	10.3	129
11	Topological magnetoelectric effects in thin films of topological insulators. Physical Review B, 2015, 92, .	3.2	127
12	Chiral optical response of multifold fermions. Physical Review B, 2018, 98, .	3.2	118
13	Chiral Floquet Phases of Many-Body Localized Bosons. Physical Review X, 2016, 6, .	8.9	111
14	Diagrammatic approach to nonlinear optical response with application to Weyl semimetals. Physical Review B, 2019, 99, .	3.2	110
15	Optical Hall Conductivity in Ordinary and Graphene Quantum Hall Systems. Physical Review Letters, 2009, 103, 116803.	7.8	109
16	A van der Waals interface that creates in-plane polarization and a spontaneous photovoltaic effect. Science, 2021, 372, 68-72.	12.6	109
17	Transport, magnetic and optical properties of Weyl materials. Nature Reviews Materials, 2020, 5, 621-636.	48.7	96
18	Optical Hall Effect in the Integer Quantum Hall Regime. Physical Review Letters, 2010, 104, 256802.	7.8	87

#	ARTICLE	IF	CITATIONS
19	Breakdown of the topological classification $\langle \text{mml:math} \text{xmlns:mml="http://www.w3.org/1998/Math/MathML"} \rangle \langle \text{mml:mi} \text{mathvariant="double-struck"} \rangle Z \langle \text{mml:mi} \rangle \langle \text{mml:math} \rangle$ for gapped phases of noninteracting fermions by quartic interactions. <i>Physical Review B</i> , 2015, 92, .	3.2	87
20	Topological semimetals protected by off-centered symmetries in nonsymmorphic crystals. <i>Physical Review B</i> , 2017, 95, .	3.2	86
21	Resonance-enhanced optical nonlinearity in the Weyl semimetal TaAs. <i>Physical Review B</i> , 2018, 98, .	3.2	83
22	Spectral dynamics of shift current in ferroelectric semiconductor SbSI. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2019, 116, 1929-1933.	7.1	79
23	Weyl and Dirac semimetals with $\langle \text{mml:math} \text{xmlns:mml="http://www.w3.org/1998/Math/MathML"} \rangle \langle \text{mml:msub} \rangle \langle \text{mml:mi} \text{mathvariant="double-struck"} \rangle Z \langle \text{mml:mi} \rangle \langle \text{mml:mn} \rangle 2 \langle \text{mml:mn} \rangle \langle \text{mml:msub} \rangle \langle \text{mml:math} \rangle$ topological charge. <i>Physical Review B</i> , 2014, 89, .	3.2	75
24	Quantitative relationship between polarization differences and the zone-averaged shift photocurrent. <i>Physical Review B</i> , 2017, 96, .	3.2	70
25	Floquet topological phases protected by time glide symmetry. <i>Physical Review B</i> , 2017, 95, .	3.2	64
26	Topological charges of three-dimensional Dirac semimetals with rotation symmetry. <i>Physical Review B</i> , 2015, 92, .	3.2	60
27	Cyclotron radiation and emission in graphene. <i>Physical Review B</i> , 2008, 78, .	3.2	59
28	Topological zero modes and Dirac points protected by spatial symmetry and chiral symmetry. <i>Physical Review B</i> , 2014, 90, .	3.2	56
29	Nonlinear spin current generation in noncentrosymmetric spin-orbit coupled systems. <i>Physical Review B</i> , 2017, 95, .	3.2	56
30	Chiral Anomaly and Giant Magneto-chiral Anisotropy in Noncentrosymmetric Weyl Semimetals. <i>Physical Review Letters</i> , 2016, 117, 146603.	7.8	55
31	Topological Floquet-Thouless Energy Pump. <i>Physical Review Letters</i> , 2018, 120, 150601.	7.8	54
32	Topology and Symmetry of Quantum Materials via Nonlinear Optical Responses. <i>Annual Review of Condensed Matter Physics</i> , 2021, 12, 247-272.	14.5	54
33	Topological aspects of nonlinear excitonic processes in noncentrosymmetric crystals. <i>Physical Review B</i> , 2016, 94, .	3.2	51
34	Difference frequency generation in topological semimetals. <i>Physical Review Research</i> , 2020, 2, .	3.6	51
35	Shift charge and spin photocurrents in Dirac surface states of topological insulator. <i>Physical Review B</i> , 2017, 95, .	3.2	50
36	Concept of Quantum Geometry in Optoelectronic Processes in Solids: Application to Solar Cells. <i>Advanced Materials</i> , 2017, 29, 1603345.	21.0	50

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37	Weyl Mott Insulator. Scientific Reports, 2016, 6, 19853.	3.3	47
38	Dynamically enriched topological orders in driven two-dimensional systems. Physical Review B, 2017, 95, .	3.2	47
39	Experimental signature of the parity anomaly in a semi-magnetic topological insulator. Nature Physics, 2022, 18, 390-394.	16.7	45
40	$\mathbb{Z}$ symmetry-protected topological phases in the SU(3) AKLT model. Physical Review B, 2014, 90, .	3.2	39
41	CPT theorem and classification of topological insulators and superconductors. Physical Review B, 2014, 90, .	3.2	38
42	Nonreciprocal current from electron interactions in noncentrosymmetric crystals: roles of time reversal symmetry and dissipation. Scientific Reports, 2018, 8, 2973.	3.3	36
43	Anderson localization and the topology of classifying spaces. Physical Review B, 2015, 91, .	3.2	34
44	Topological phases protected by reflection symmetry and cross-cap states. Physical Review B, 2015, 91, .	3.2	33
45	Current-Voltage Characteristic and Shot Noise of Shift Current Photovoltaics. Physical Review Letters, 2018, 121, 267401.	7.8	32
46	ZN Berry Phases in Symmetry Protected Topological Phases. Physical Review Letters, 2018, 120, 247202.	7.8	31
47	Generalized chiral symmetry and stability of zero modes for tilted Dirac cones. Physical Review B, 2011, 83, .	3.2	30
48	Quantum phase transitions beyond Landau-Ginzburg theory in one-dimensional space revisited. Physical Review B, 2019, 99, .	3.2	30
49	Stability of surface states of weak $\mathbb{Z}_2$ topological insulators and superconductors. Physical Review B, 2014, 89, .	3.2	27
50	Defect tolerant zero-bias topological photocurrent in a ferroelectric semiconductor. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 20411-20415.	7.1	27
51	Nonreciprocal Landau-Zener tunneling. Communications Physics, 2020, 3, .	5.3	25
52	Current-induced second harmonic generation in inversion-symmetric Dirac and Weyl semimetals. Physical Review B, 2021, 104, .	3.2	25
53	Charge and Spin Transport in Edge Channels of $\nu=0$ Quantum Hall System on the Surface of Topological Insulators. Physical Review Letters, 2015, 114, 146803.	7.8	24
54	Nonlinear optical effects in inversion-symmetry-breaking superconductors. Physical Review B, 2019, 100, .	3.2	22

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55	Faraday rotation in bilayer and trilayer graphene in the quantum Hall regime. <i>Physical Review B</i> , 2012, 86, .	3.2	21
56	Gate-induced Dirac cones in multilayer graphenes. <i>Physical Review B</i> , 2013, 87, .	3.2	20
57	Large non-reciprocal charge transport mediated by quantum anomalous Hall edge states. <i>Nature Nanotechnology</i> , 2020, 15, 831-835.	31.5	20
58	Ultrafast spectroscopy of shift-current in ferroelectric semiconductor Sn <sub>2</sub> P <sub>2</sub> S <sub>6</sub> . <i>Applied Physics Letters</i> , 2019, 114, .	3.3	18
59	Manipulating long-lived topological surface photovoltage in bulk-insulating topological insulators Bi <sub>2</sub> Se <sub>3</sub> and Bi <sub>2</sub> Te <sub>3</sub> . <i>Npj Quantum Materials</i> , 2020, 5, .	5.2	18
60	Chiral symmetry and its manifestation in optical responses in graphene: interaction and multilayers. <i>New Journal of Physics</i> , 2013, 15, 035023.	2.9	17
61	Bosonic symmetry-protected topological phases with reflection symmetry. <i>Physical Review B</i> , 2015, 92, .	3.2	14
62	Dynamical scaling analysis of the optical Hall conductivity in the quantum Hall regime. <i>Physical Review B</i> , 2010, 82, .	3.2	12
63	Cyclotron radiation and emission in graphene – a possibility of Landau-level laser. <i>Journal of Physics: Conference Series</i> , 2009, 150, 022059.	0.4	11
64	Shift current from electromagnon excitations in multiferroics. <i>Physical Review B</i> , 2019, 100, .	3.2	11
65	Terahertz Dynamics of a Topologically Protected State: Quantum Hall Effect Plateaus near the Cyclotron Resonance of a Two-Dimensional Electron Gas. <i>Physical Review Letters</i> , 2015, 115, 247401.	7.8	10
66	Scaling laws for nonlinear electromagnetic responses of Dirac fermion. <i>Physical Review B</i> , 2016, 93, .	3.2	10
67	Optical Hall conductivity in 2DEG and graphene QHE systems. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , 2010, 42, 751-754.	2.7	9
68	Terahertz emission spectroscopy of ultrafast exciton shift current in the noncentrosymmetric semiconductor CdS. <i>Physical Review B</i> , 2021, 103, .	3.2	9
69	Anomalous criticality at the $\nu=0$ quantum Hall transition in graphene: The role of disorder preserving chiral symmetry. <i>Physical Review B</i> , 2010, 82, .	3.2	8
70	GENERALIZATION OF CHIRAL SYMMETRY FOR TILTED DIRAC CONES. <i>International Journal of Modern Physics Conference Series</i> , 2012, 11, 145-150.	0.7	8
71	Optical rotation in thin chiral/twisted materials and the gyrotropic magnetic effect. <i>Physical Review B</i> , 2020, 101, .	3.2	7
72	Photovoltaic effect by soft phonon excitation. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2022, 119, e2122313119.	7.1	7

#	ARTICLE	IF	CITATIONS
73	Symmetry protected topological phases in two-orbital SU(4) fermionic atoms. Physical Review B, 2018, 98, .	3.2	6
74	Efficient prediction of time- and angle-resolved photoemission spectroscopy measurements on a nonequilibrium BCS superconductor. Physical Review B, 2019, 99, .	3.2	6
75	Floquet engineering of electric polarization with two-frequency drive. Progress of Theoretical and Experimental Physics, 2022, 2022, .	6.6	6
76	Electric polarization and nonlinear optical effects in noncentrosymmetric magnets. Physical Review B, 2021, 104, .	3.2	6
77	Topological charge pumping in quasiperiodic systems characterized by the Bott index. Physical Review B, 2021, 104, .	3.2	5
78	Quadratic optical responses in a chiral magnet. Physical Review B, 2021, 104, .	3.2	5
79	Optical response of the Leggett mode in multiband superconductors in the linear response regime. Physical Review B, 2022, 105, .	3.2	5
80	Two-parameter flow of $j_f \times x \times x$		

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91	GENERALIZATION OF CHIRAL SYMMETRY FOR TILTED DIRAC CONES. , 2012, , .		0