

Tay-Rong Chang

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123
papers

10,254
citations

45
h-index

100
g-index

133
ext. papers

12,724
ext. citations

11.3
avg, IF

5.71
L-index

#	Paper	IF	Citations
123	Direct observation of the transition from indirect to direct bandgap in atomically thin epitaxial MoSe ₂ . <i>Nature Nanotechnology</i> , 2014 , 9, 111-5	28.7	943
122	Observation of a three-dimensional topological Dirac semimetal phase in high-mobility Cd ₃ As ₂ . <i>Nature Communications</i> , 2014 , 5, 3786	17.4	938
121	Discovery of a Weyl fermion state with Fermi arcs in niobium arsenide. <i>Nature Physics</i> , 2015 , 11, 748-754	16.2	674
120	Topological nodal-line fermions in spin-orbit metal PbTaSe ₂ . <i>Nature Communications</i> , 2016 , 7, 10556	17.4	514
119	Observation of Fermi arc surface states in a topological metal. <i>Science</i> , 2015 , 347, 294-8	33.3	488
118	Signatures of the Adler-Bell-Jackiw chiral anomaly in a Weyl fermion semimetal. <i>Nature Communications</i> , 2016 , 7, 10735	17.4	455
117	Gated silicene as a tunable source of nearly 100% spin-polarized electrons. <i>Nature Communications</i> , 2013 , 4, 1500	17.4	368
116	Hedgehog spin texture and Berry phase tuning in a magnetic topological insulator. <i>Nature Physics</i> , 2012 , 8, 616-622	16.2	308
115	Surface electronic structure of the topological Kondo-insulator candidate correlated electron system SmB ₆ . <i>Nature Communications</i> , 2013 , 4, 2991	17.4	267
114	Experimental discovery of a topological Weyl semimetal state in TaP. <i>Science Advances</i> , 2015 , 1, e1501092	14.3	241
113	Prediction of an arc-tunable Weyl Fermion metallic state in Mo(x)W(1-x)Te ₂ . <i>Nature Communications</i> , 2016 , 7, 10639	17.4	216
112	Drumhead surface states and topological nodal-line fermions in TlTaSe ₂ . <i>Physical Review B</i> , 2016 , 93,	3.3	201
111	New type of Weyl semimetal with quadratic double Weyl fermions. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2016 , 113, 1180-5	11.5	199
110	Discovery of topological Weyl fermion lines and drumhead surface states in a room temperature magnet. <i>Science</i> , 2019 , 365, 1278-1281	33.3	187
109	Observation of the nonlinear Hall effect under time-reversal-symmetric conditions. <i>Nature</i> , 2019 , 565, 337-342	50.4	159
108	Unconventional Chiral Fermions and Large Topological Fermi Arcs in RhSi. <i>Physical Review Letters</i> , 2017 , 119, 206401	7.4	154
107	Electrically switchable Berry curvature dipole in the monolayer topological insulator WTe ₂ . <i>Nature Physics</i> , 2018 , 14, 900-906	16.2	143

106	Topological surface states and Dirac point tuning in ternary topological insulators. <i>Physical Review B</i> , 2012 , 85,	3.3	141
105	Large-Area and High-Quality 2D Transition Metal Telluride. <i>Advanced Materials</i> , 2017 , 29, 1603471	24	140
104	Discovery of a new type of topological Weyl fermion semimetal state in MoWTe. <i>Nature Communications</i> , 2016 , 7, 13643	17.4	134
103	Giant and anisotropic many-body spin-orbit tunability in a strongly correlated kagome magnet. <i>Nature</i> , 2018 , 562, 91-95	50.4	132
102	Topological quantum properties of chiral crystals. <i>Nature Materials</i> , 2018 , 17, 978-985	27	129
101	Topological chiral crystals with helicoid-arc quantum states. <i>Nature</i> , 2019 , 567, 500-505	50.4	126
100	Discovery of Lorentz-violating type II Weyl fermions in LaAlGe. <i>Science Advances</i> , 2017 , 3, e1603266	14.3	124
99	Type-II Symmetry-Protected Topological Dirac Semimetals. <i>Physical Review Letters</i> , 2017 , 119, 026404	7.4	112
98	Criteria for Directly Detecting Topological Fermi Arcs in Weyl Semimetals. <i>Physical Review Letters</i> , 2016 , 116, 066802	7.4	107
97	Fermi arc electronic structure and Chern numbers in the type-II Weyl semimetal candidate $\text{Mo}_x\text{W}_{1-x}\text{Te}_2$. <i>Physical Review B</i> , 2016 , 94,	3.3	106
96	Observation of quantum-tunnelling-modulated spin texture in ultrathin topological insulator Bi_2Se_3 films. <i>Nature Communications</i> , 2014 , 5, 3841	17.4	99
95	Nexus fermions in topological symmorphic crystalline metals. <i>Scientific Reports</i> , 2017 , 7, 1688	4.9	97
94	A strongly robust type II Weyl fermion semimetal state in TaS. <i>Science Advances</i> , 2016 , 2, e1600295	14.3	95
93	Controlled Synthesis of Organic/Inorganic van der Waals Solid for Tunable Light-Matter Interactions. <i>Advanced Materials</i> , 2015 , 27, 7800-8	24	94
92	Atomic-Scale Visualization of Quantum Interference on a Weyl Semimetal Surface by Scanning Tunneling Microscopy. <i>ACS Nano</i> , 2016 , 10, 1378-85	16.7	93
91	Electronic structure, spin-orbit coupling, and interlayer interaction in bulk MoS_2 and WS_2 . <i>Physical Review B</i> , 2015 , 91,	3.3	92
90	Metal-Semiconductor Phase-Transition in WSe Te Monolayer. <i>Advanced Materials</i> , 2017 , 29, 1603991	24	88
89	Magnetic and noncentrosymmetric Weyl fermion semimetals in the RAlGe family of compounds (R=rareearth). <i>Physical Review B</i> , 2018 , 97,	3.3	74

88	Quantum-limit Chern topological magnetism in TbMnSn. <i>Nature</i> , 2020 , 583, 533-536	50.4	74
87	Evidence of indirect gap in monolayer WSe. <i>Nature Communications</i> , 2017 , 8, 929	17.4	72
86	Spin Polarization and Texture of the Fermi Arcs in the Weyl Fermion Semimetal TaAs. <i>Physical Review Letters</i> , 2016 , 116, 096801	7.4	72
85	Imaging the evolution of metallic states in a correlated iridate. <i>Nature Materials</i> , 2013 , 12, 707-13	27	63
84	Topological Dirac surface states and superconducting pairing correlations in PbTaSe ₂ . <i>Physical Review B</i> , 2016 , 93,	3.3	58
83	Signatures of a time-reversal symmetric Weyl semimetal with only four Weyl points. <i>Nature Communications</i> , 2017 , 8, 942	17.4	57
82	Atomic-Scale Visualization of Quasiparticle Interference on a Type-II Weyl Semimetal Surface. <i>Physical Review Letters</i> , 2016 , 117, 266804	7.4	50
81	Single-layer dual germanene phases on Ag(111). <i>Physical Review Materials</i> , 2018 , 2,	3.2	49
80	Realization of an intrinsic ferromagnetic topological state in MnBiTe. <i>Science Advances</i> , 2020 , 6, eaba42751.3	51.3	47
79	Magnetotransport properties of the single-crystalline nodal-line semimetal candidates CaTX(T=Ag,Cd;X=As,Ge). <i>Physical Review B</i> , 2017 , 95,	3.3	46
78	Realization of a Type-II Nodal-Line Semimetal in MgBi. <i>Advanced Science</i> , 2019 , 6, 1800897	13.6	44
77	Signatures of Fermi Arcs in the Quasiparticle Interferences of the Weyl Semimetals TaAs and NbP. <i>Physical Review Letters</i> , 2016 , 116, 066601	7.4	43
76	Hallmarks of Hund's coupling in the Mott insulator CaRuO. <i>Nature Communications</i> , 2017 , 8, 15176	17.4	42
75	Non-Kondo-like electronic structure in the correlated rare-earth hexaboride YbB ₆ . <i>Physical Review Letters</i> , 2015 , 114, 016403	7.4	42
74	Room-temperature intrinsic ferromagnetism in epitaxial CrTe ultrathin films. <i>Nature Communications</i> , 2021 , 12, 2492	17.4	42
73	Polymorphic Layered MoTe ₂ from Semiconductor, Topological Insulator, to Weyl Semimetal. <i>Chemistry of Materials</i> , 2017 , 29, 699-707	9.6	40
72	Three-dimensional Dirac cone carrier dynamics in Na ₃ Bi and Cd ₃ As ₂ . <i>Physical Review B</i> , 2016 , 94,	3.3	36
71	Resonant tunneling through discrete quantum states in stacked atomic-layered MoS ₂ . <i>Nano Letters</i> , 2014 , 14, 2381-6	11.5	34

70	Observation of the spin-polarized surface state in a noncentrosymmetric superconductor BiPd. <i>Nature Communications</i> , 2016 , 7, 13315	17.4	33
69	Topology on a new facet of bismuth. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2019 , 116, 13255-13259	11.5	32
68	A New Magnetic Topological Quantum Material Candidate by Design. <i>ACS Central Science</i> , 2019 , 5, 900-9108	10.8	32
67	Spontaneous gyrotropic electronic order in a transition-metal dichalcogenide. <i>Nature</i> , 2020 , 578, 545-549	10.4	32
66	Quasiparticle interference and nonsymmorphic effect on a floating band surface state of ZrSiSe. <i>Nature Communications</i> , 2018 , 9, 4153	17.4	31
65	Thickness dependence of spin polarization and electronic structure of ultra-thin films of MoS ₂ and related transition-metal dichalcogenides. <i>Scientific Reports</i> , 2014 , 4, 6270	4.9	30
64	Unconventional transformation of spin Dirac phase across a topological quantum phase transition. <i>Nature Communications</i> , 2015 , 6, 6870	17.4	28
63	Lifshitz transition and Van Hove singularity in a three-dimensional topological Dirac semimetal. <i>Physical Review B</i> , 2015 , 92,	3.3	28
62	Fermi surface topology and hot spot distribution in the Kondo lattice system CeB ₆ . <i>Physical Review B</i> , 2015 , 92,	3.3	26
61	Inter-Layer Coupling Induced Valence Band Edge Shift in Mono- to Few-Layer MoS. <i>Scientific Reports</i> , 2017 , 7, 40559	4.9	25
60	Room-Temperature Nanoseconds Spin Relaxation in WTe and MoTe Thin Films. <i>Advanced Science</i> , 2018 , 5, 1700912	13.6	25
59	Topological crystalline insulator states in the Ca ₂ As family. <i>Physical Review B</i> , 2018 , 98,	3.3	24
58	Crystal growth and quantum oscillations in the topological chiral semimetal CoSi. <i>Physical Review B</i> , 2019 , 100,	3.3	21
57	Room-temperature nonlinear Hall effect and wireless radiofrequency rectification in Weyl semimetal TaIrTe. <i>Nature Nanotechnology</i> , 2021 , 16, 421-425	28.7	21
56	Purely rotational symmetry-protected topological crystalline insulator α -Bi ₄ Br ₄ . <i>2D Materials</i> , 2019 , 6, 031004	5.9	20
55	Charge-orbital ordering and ferroelectric polarization in multiferroic TbMn ₂ O ₅ from first principles. <i>Physical Review B</i> , 2011 , 84,	3.3	19
54	Experimental observation of two massless Dirac-fermion gases in graphene-topological insulator heterostructure. <i>2D Materials</i> , 2016 , 3, 021009	5.9	19
53	Nanoscale interplay of strain and doping in a high-temperature superconductor. <i>Nano Letters</i> , 2014 , 14, 6749-53	11.5	18

52	Ultraquantum magnetoresistance in the Kramers-Weyl semimetal candidate Ag_2Se . <i>Physical Review B</i> , 2017 , 96,	3.3	18
51	Mirror Protected Dirac Fermions on a Weyl Semimetal NbP Surface. <i>Physical Review Letters</i> , 2017 , 119, 196403	7.4	17
50	Electronic versus lattice match for metal-semiconductor epitaxial growth: Pb on Ge(111). <i>Physical Review Letters</i> , 2011 , 107, 066802	7.4	17
49	Tunable spin helical Dirac quasiparticles on the surface of three-dimensional HgTe. <i>Physical Review B</i> , 2015 , 92,	3.3	16
48	Field-free platform for Majorana-like zero mode in superconductors with a topological surface state. <i>Physical Review B</i> , 2020 , 101,	3.3	15
47	Quasiparticle Interference on Cubic Perovskite Oxide Surfaces. <i>Physical Review Letters</i> , 2017 , 119, 086801	7.4	15
46	Saddle-point Van Hove singularity and dual topological state in Pt_2HgSe_3 . <i>Physical Review B</i> , 2019 , 100,	3.3	15
45	Layer Hall effect in a 2D topological axion antiferromagnet. <i>Nature</i> , 2021 , 595, 521-525	50.4	15
44	Anisotropic superconducting property studies of single crystal PbTaSe. <i>Journal of Physics Condensed Matter</i> , 2017 , 29, 095601	1.8	14
43	Fermion-boson many-body interplay in a frustrated kagome paramagnet. <i>Nature Communications</i> , 2020 , 11, 4003	17.4	14
42	Enhanced anomalous Hall effect in the magnetic topological semimetal $\text{Co}_3\text{Sn}_2\text{In}_x\text{S}_2$. <i>Physical Review B</i> , 2020 , 101,	3.3	13
41	Ab initio study of the PbTaSe ₂ -related superconducting topological metals. <i>Physical Review B</i> , 2016 , 94,	3.3	13
40	Tunable double-Weyl Fermion semimetal state in the SrSi materials class. <i>Scientific Reports</i> , 2018 , 8, 105409	4.9	13
39	Two distinct topological phases in the mixed-valence compound YbB ₆ and its differences from SmB ₆ . <i>Physical Review B</i> , 2015 , 91,	3.3	13
38	Large transverse Hall-like signal in topological Dirac semimetal Cd ₃ As ₂ . <i>Scientific Reports</i> , 2016 , 6, 27487	4.9	13
37	Surface versus bulk Dirac state tuning in a three-dimensional topological Dirac semimetal. <i>Physical Review B</i> , 2015 , 91,	3.3	12
36	Many-Body Resonance in a Correlated Topological Kagome Antiferromagnet. <i>Physical Review Letters</i> , 2020 , 125, 046401	7.4	12
35	Selective Hydrogen Etching Leads to 2D Bi(111) Bilayers on Bi ₂ Se ₃ : Large Rashba Splitting in Topological Insulator Heterostructure. <i>Chemistry of Materials</i> , 2017 , 29, 8992-9000	9.6	11

34	Band Topology of Bismuth Quantum Films. <i>Crystals</i> , 2019 , 9, 510	2.3	11
33	Quantum oscillations in the noncentrosymmetric superconductor and topological nodal-line semimetal PbTaSe ₂ . <i>Physical Review B</i> , 2019 , 99,	3.3	11
32	Spin-correlated electronic state on the surface of a spin-orbit Mott system. <i>Physical Review B</i> , 2014 , 90,	3.3	11
31	Dispersive resonance bands within the space-charge layer of a metal-semiconductor junction. <i>Physical Review B</i> , 2010 , 81,	3.3	9
30	Prediction of threefold fermions in a nearly ideal Dirac semimetal BaAgAs. <i>Physical Review Materials</i> , 2019 , 3,	3.2	9
29	Searching for topological Fermi arcs via quasiparticle interference on a type-II Weyl semimetal MoTe ₂ . <i>Npj Quantum Materials</i> , 2018 , 3,	5	8
28	Superconducting SrSnP with Strong Sn-P Antibonding Interaction: Is the Sn Atom Single or Mixed Valent?. <i>Chemistry of Materials</i> , 2018 , 30, 6005-6013	9.6	8
27	Atomic-scale visualization of surface-assisted orbital order. <i>Science Advances</i> , 2017 , 3, eaao0362	14.3	8
26	Bilayer oscillation of subband effective masses in Pb/Ge(111) thin-film quantum wells. <i>Applied Physics Letters</i> , 2010 , 96, 103106	3.4	7
25	Prediction of nontrivial band topology and superconductivity in Mg ₂ Pb. <i>Physical Review Materials</i> , 2017 , 1,	3.2	7
24	Moiré Superlattices and 2D electronic properties of graphite/MoS ₂ heterostructures. <i>Journal of Physics and Chemistry of Solids</i> , 2019 , 128, 325-330	3.9	7
23	Rashba effect within the space-charge layer of a semiconductor. <i>New Journal of Physics</i> , 2014 , 16, 045003.	3.9	6
22	Multiple topological electronic phases in superconductor MoC. <i>Physical Review Materials</i> , 2018 , 2,	3.2	6
21	Newtype large Rashba splitting in quantum well states induced by spin chirality in metal/topological insulator heterostructures. <i>NPG Asia Materials</i> , 2016 , 8, e332-e332	10.3	6
20	Significantly enhanced giant Rashba splitting in a thin film of binary alloy. <i>New Journal of Physics</i> , 2015 , 17, 083015	2.9	5
19	A Novel Magnetic Material by Design: Observation of Yb with Spin-1/2 in Yb PtP. <i>ACS Central Science</i> , 2020 , 6, 2023-2030	16.8	5
18	Consonant diminution of lattice and electronic coupling between a film and a substrate: Pb on Ge(100). <i>Physical Review B</i> , 2011 , 84,	3.3	5
17	Few-layer 1T' MoTe ₂ as gapless semimetal with thickness dependent carrier transport. <i>2D Materials</i> , 2018 , 5, 031010	5.9	5

16	Tuning magnetism and band topology through antisite defects in Sb-doped MnBi ₄ Te ₇ . <i>Physical Review B</i> , 2021 , 104,	3.3	5
15	Band gap engineered ternary semiconductor PbxCd _{1-x} S: Nanoparticle-sensitized solar cells with an efficiency of 8.5% under 1% sun – a combined theoretical and experimental study. <i>Progress in Photovoltaics: Research and Applications</i> , 2020 , 28, 328-341	6.8	4
14	Highly mobile carriers in a candidate of quasi-two-dimensional topological semimetal AuTe ₂ Br. <i>APL Materials</i> , 2019 , 7, 101110	5.7	4
13	Magnetic and electronic structures of antiferromagnetic topological material candidate EuMg ₂ Bi ₂ . <i>Journal of Applied Physics</i> , 2021 , 129, 035106	2.5	4
12	Unconventional topological phase transition in non-symmorphic material KHgX (X = As, Sb, Bi). <i>Npj Computational Materials</i> , 2019 , 5,	10.9	3
11	Bond-breaking induced Lifshitz transition in robust Dirac semimetal VAl. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2020 , 117, 15517-15523	11.5	3
10	Monoclinic 122-Type BaIrTe ₃ with a Channel Framework: A Structural Connection between Clathrate and Layered Compounds. <i>Materials</i> , 2017 , 10,	3.5	3
9	Fermiology and type-I superconductivity in the chiral superconductor NbGe ₂ with Kramers-Weyl fermions. <i>Physical Review B</i> , 2020 , 102,	3.3	3
8	Impact of Semiconductor Permittivity Reduction on Electrical Characteristics of Nanoscale MOSFETs. <i>IEEE Transactions on Electron Devices</i> , 2019 , 66, 2509-2512	2.9	2
7	Direct transition resonance in atomically uniform topological Sb(111) thin films. <i>Physical Review B</i> , 2015 , 92,	3.3	2
6	Electronic structures of quasi-one-dimensional ferrimagnetic insulator Ca ₃ Co ₂ O ₆ . <i>Computer Physics Communications</i> , 2011 , 182, 93-95	4.2	2
5	Enormous Berry-Curvature-Based Anomalous Hall Effect in Topological Insulator (Bi,Sb)Te on Ferrimagnetic Europium Iron Garnet beyond 400 K.. <i>ACS Nano</i> , 2022 ,	16.7	2
4	Topological Proximity-Induced Dirac Fermion in Two-Dimensional Antimonene. <i>ACS Nano</i> , 2021 , 15, 15085-15095	15.1	2
3	Termination-dependent topological surface states in nodal-loop semimetal HfP ₂ . <i>Physical Review Materials</i> , 2020 , 4,	3.2	1
2	Observation of symmetry-protected Dirac states in nonsymmorphic antimonene. <i>Physical Review B</i> , 2021 , 104,	3.3	1
1	Topological charge-entropy scaling in kagome Chern magnet TbMnSn.. <i>Nature Communications</i> , 2022 , 13, 1197	17.4	1