Tay-Rong Chang

List of Publications by Year in Descending Order

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	Enormous Berry-Curvature-Based Anomalous Hall Effect in Topological Insulator (Bi,Sb)Te on Ferrimagnetic Europium Iron Garnet beyond 400 K.. *ACS Nano*, **2022**,	16.7	2
122	Topological charge-entropy scaling in kagome Chern magnet TbMnSn.. *Nature Communications*, **2022**, 13, 1197	17.4	1
121	Observation of symmetry-protected Dirac states in nonsymmorphic □antimonene. *Physical Review B*, **2021**, 104,	3.3	1
120	Room-temperature intrinsic ferromagnetism in epitaxial CrTe ultrathin films. *Nature Communications*, **2021**, 12, 2492	17.4	42
119	Room-temperature nonlinear Hall effect and wireless radiofrequency rectification in Weyl semimetal TaIrTe. *Nature Nanotechnology*, **2021**, 16, 421-425	28.7	21
118	Layer Hall effect in a 2D topological axion antiferromagnet. *Nature*, **2021**, 595, 521-525	50.4	15
117	Tuning magnetism and band topology through antisite defects in Sb-doped MnBi4Te7. *Physical Review B*, **2021**, 104,	3.3	5
116	Topological Proximity-Induced Dirac Fermion in Two-Dimensional Antimonene. *ACS Nano*, **2021**, 15, 15085-15095	15.7	25
115	Magnetic and electronic structures of antiferromagnetic topological material candidate EuMg2Bi2. *Journal of Applied Physics*, **2021**, 129, 035106	2.5	4
114	Bond-breaking induced Lifshitz transition in robust Dirac semimetal VAI. *Proceedings of the National Academy of Sciences of the United States of America*, **2020**, 117, 15517-15523	11.5	3
113	Enhanced anomalous Hall effect in the magnetic topological semimetal Co3Sn2□InxS2. *Physical Review B*, **2020**, 101,	3.3	13
112	Field-free platform for Majorana-like zero mode in superconductors with a topological surface state. *Physical Review B*, **2020**, 101,	3.3	15
111	A Novel Magnetic Material by Design: Observation of Yb with Spin-1/2 in Yb PtP. *ACS Central Science*, **2020**, 6, 2023-2030	16.8	5
110	Spontaneous gyrotropic electronic order in a transition-metal dichalcogenide. *Nature*, **2020**, 578, 545-549	50.4	32
109	Band gap engineered ternary semiconductor PbxCd1□S: Nanoparticle-sensitized solar cells with an efficiency of 8.5% under 1% sun□A combined theoretical and experimental study. *Progress in Photovoltaics: Research and Applications*, **2020**, 28, 328-341	6.8	4
108	Fermiology and type-I superconductivity in the chiral superconductor NbGe2 with Kramers-Weyl fermions. *Physical Review B*, **2020**, 102,	3.3	3
107	Termination-dependent topological surface states in nodal-loop semimetal HfP2. *Physical Review Materials*, **2020**, 4,	3.2	1

106	Many-Body Resonance in a Correlated Topological Kagome Antiferromagnet. *Physical Review Letters*, **2020**, 125, 046401	7.4	12
105	Quantum-limit Chern topological magnetism in TbMnSn. *Nature*, **2020**, 583, 533-536	50.4	74
104	Fermion-boson many-body interplay in a frustrated kagome paramagnet. *Nature Communications*, **2020**, 11, 4003	17.4	14
103	Realization of an intrinsic ferromagnetic topological state in MnBiTe. *Science Advances*, **2020**, 6, eaba4275	14.3	47
102	Discovery of topological Weyl fermion lines and drumhead surface states in a room temperature magnet. *Science*, **2019**, 365, 1278-1281	33.3	187
101	Band Topology of Bismuth Quantum Films. *Crystals*, **2019**, 9, 510	2.3	11
100	Topology on a new facet of bismuth. *Proceedings of the National Academy of Sciences of the United States of America*, **2019**, 116, 13255-13259	11.5	32
99	Unconventional topological phase transition in non-symmorphic material KHgX (X = As, Sb, Bi). *Npj Computational Materials*, **2019**, 5,	10.9	3
98	Impact of Semiconductor Permittivity Reduction on Electrical Characteristics of Nanoscale MOSFETs. *IEEE Transactions on Electron Devices*, **2019**, 66, 2509-2512	2.9	2
97	A New Magnetic Topological Quantum Material Candidate by Design. *ACS Central Science*, **2019**, 5, 900-9108	10.8	32
96	Topological chiral crystals with helicoid-arc quantum states. *Nature*, **2019**, 567, 500-505	50.4	126
95	Quantum oscillations in the noncentrosymmetric superconductor and topological nodal-line semimetal PbTaSe2. *Physical Review B*, **2019**, 99,	3.3	11
94	Purely rotational symmetry-protected topological crystalline insulator $alpha$ -Bi 4 Br 4. *2D Materials*, **2019**, 6, 031004	5.9	20
93	Crystal growth and quantum oscillations in the topological chiral semimetal CoSi. *Physical Review B*, **2019**, 100,	3.3	21
92	Highly mobile carriers in a candidate of quasi-two-dimensional topological semimetal AuTe2Br. *APL Materials*, **2019**, 7, 101110	5.7	4
91	Prediction of threefold fermions in a nearly ideal Dirac semimetal BaAgAs. *Physical Review Materials*, **2019**, 3,	3.2	9
90	Saddle-point Van Hove singularity and dual topological state in Pt2HgSe3. *Physical Review B*, **2019**, 100,	3.3	15
89	Observation of the nonlinear Hall effect under time-reversal-symmetric conditions. *Nature*, **2019**, 565, 337-342	50.4	159

88	Realization of a Type-II Nodal-Line Semimetal in MgBi. *Advanced Science*, **2019**, 6, 1800897	13.6	44
87	Moir□superlattices and 2D electronic properties of graphite/MoS2 heterostructures. *Journal of Physics and Chemistry of Solids*, **2019**, 128, 325-330	3.9	7
86	Room-Temperature Nanoseconds Spin Relaxation in WTe and MoTe Thin Films. *Advanced Science*, **2018**, 5, 1700912	13.6	25
85	Magnetic and noncentrosymmetric Weyl fermion semimetals in the RAlGe family of compounds (R=rareearth). *Physical Review B*, **2018**, 97,	3.3	74
84	Tunable double-Weyl Fermion semimetal state in the SrSi materials class. *Scientific Reports*, **2018**, 8, 10540	4.9	13
83	Searching for topological Fermi arcs via quasiparticle interference on a type-II Weyl semimetal MoTe2. *Npj Quantum Materials*, **2018**, 3,	5	8
82	Superconducting SrSnP with Strong Sn□P Antibonding Interaction: Is the Sn Atom Single or Mixed Valent?. *Chemistry of Materials*, **2018**, 30, 6005-6013	9.6	8
81	Single-layer dual germanene phases on Ag(111). *Physical Review Materials*, **2018**, 2,	3.2	49
80	Multiple topological electronic phases in superconductor MoC. *Physical Review Materials*, **2018**, 2,	3.2	6
79	Topological crystalline insulator states in the Ca2As family. *Physical Review B*, **2018**, 98,	3.3	24
78	Topological quantum properties of chiral crystals. *Nature Materials*, **2018**, 17, 978-985	27	129
77	Quasiparticle interference and nonsymmorphic effect on a floating band surface state of ZrSiSe. *Nature Communications*, **2018**, 9, 4153	17.4	31
76	Giant and anisotropic many-body spin-orbit tunability in a strongly correlated kagome magnet. *Nature*, **2018**, 562, 91-95	50.4	132
75	Few-layer 1T? MoTe 2 as gapless semimetal with thickness dependent carrier transport. *2D Materials*, **2018**, 5, 031010	5.9	5
74	Electrically switchable Berry curvature dipole in the monolayer topological insulator WTe2. *Nature Physics*, **2018**, 14, 900-906	16.2	143
73	Inter-Layer Coupling Induced Valence Band Edge Shift in Mono- to Few-Layer MoS. *Scientific Reports*, **2017**, 7, 40559	4.9	25
72	Hallmarks of Hunds coupling in the Mott insulator CaRuO. *Nature Communications*, **2017**, 8, 15176	17.4	42
71	Polymorphic Layered MoTe2 from Semiconductor, Topological Insulator, to Weyl Semimetal. *Chemistry of Materials*, **2017**, 29, 699-707	9.6	40

70	Evidence of indirect gap in monolayer WSe. *Nature Communications*, **2017**, 8, 929	17.4	72
69	Selective Hydrogen Etching Leads to 2D Bi(111) Bilayers on Bi2Se3: Large Rashba Splitting in Topological Insulator Heterostructure. *Chemistry of Materials*, **2017**, 29, 8992-9000	9.6	11
68	Quasiparticle Interference on Cubic Perovskite Oxide Surfaces. *Physical Review Letters*, **2017**, 119, 086801	7.4	15
67	Atomic-scale visualization of surface-assisted orbital order. *Science Advances*, **2017**, 3, eaao0362	14.3	8
66	Nexus fermions in topological symmorphic crystalline metals. *Scientific Reports*, **2017**, 7, 1688	4.9	97
65	Unconventional Chiral Fermions and Large Topological Fermi Arcs in RhSi. *Physical Review Letters*, **2017**, 119, 206401	7.4	154
64	Signatures of a time-reversal symmetric Weyl semimetal with only four Weyl points. *Nature Communications*, **2017**, 8, 942	17.4	57
63	Mirror Protected Dirac Fermions on a Weyl Semimetal NbP Surface. *Physical Review Letters*, **2017**, 119, 196403	7.4	17
62	Ultraquantum magnetoresistance in the Kramers-Weyl semimetal candidate Ag2Se. *Physical Review B*, **2017**, 96,	3.3	18
61	Type-II Symmetry-Protected Topological Dirac Semimetals. *Physical Review Letters*, **2017**, 119, 026404	7.4	112
60	Magnetotransport properties of the single-crystalline nodal-line semimetal candidates CaTX(T=Ag,Cd;X=As,Ge). *Physical Review B*, **2017**, 95,	3.3	46
59	Large-Area and High-Quality 2D Transition Metal Telluride. *Advanced Materials*, **2017**, 29, 1603471	24	140
58	Metal-Semiconductor Phase-Transition in WSe Te Monolayer. *Advanced Materials*, **2017**, 29, 1603991	24	88
57	Monoclinic 122-Type BaIrGe with a Channel Framework: A Structural Connection between Clathrate and Layered Compounds. *Materials*, **2017**, 10,	3.5	3
56	Prediction of nontrivial band topology and superconductivity in Mg2Pb. *Physical Review Materials*, **2017**, 1,	3.2	7
55	Discovery of Lorentz-violating type II Weyl fermions in LaAlGe. *Science Advances*, **2017**, 3, e1603266	14.3	124
54	Anisotropic superconducting property studies of single crystal PbTaSe. *Journal of Physics Condensed Matter*, **2017**, 29, 095601	1.8	14
53	Three-dimensional Dirac cone carrier dynamics in Na3Bi and Cd3As2. *Physical Review B*, **2016**, 94,	3.3	36

52	Fermi arc electronic structure and Chern numbers in the type-II Weyl semimetal candidate MoxW1□Te2. *Physical Review B*, **2016**, 94,	3.3	106
51	Drumhead surface states and topological nodal-line fermions in TlTaSe2. *Physical Review B*, **2016**, 93,	3.3	201
50	Signatures of Fermi Arcs in the Quasiparticle Interferences of the Weyl Semimetals TaAs and NbP. *Physical Review Letters*, **2016**, 116, 066601	7.4	43
49	Spin Polarization and Texture of the Fermi Arcs in the Weyl Fermion Semimetal TaAs. *Physical Review Letters*, **2016**, 116, 096801	7.4	72
48	Topological Dirac surface states and superconducting pairing correlations in PbTaSe2. *Physical Review B*, **2016**, 93,	3.3	58
47	A strongly robust type II Weyl fermion semimetal state in TaS. *Science Advances*, **2016**, 2, e1600295	14.3	95
46	Observation of the spin-polarized surface state in a noncentrosymmetric superconductor BiPd. *Nature Communications*, **2016**, 7, 13315	17.4	33
45	Signatures of the Adler-Bell-Jackiw chiral anomaly in a Weyl fermion semimetal. *Nature Communications*, **2016**, 7, 10735	17.4	455
44	Ab initio study of the PbTaSe2-related superconducting topological metals. *Physical Review B*, **2016**, 94,	3.3	13
43	Atomic-Scale Visualization of Quantum Interference on a Weyl Semimetal Surface by Scanning Tunneling Microscopy. *ACS Nano*, **2016**, 10, 1378-85	16.7	93
42	Prediction of an arc-tunable Weyl Fermion metallic state in Mo(x)W(1-x)Te2. *Nature Communications*, **2016**, 7, 10639	17.4	216
41	Topological nodal-line fermions in spin-orbit metal PbTaSe2. *Nature Communications*, **2016**, 7, 10556	17.4	514
40	Criteria for Directly Detecting Topological Fermi Arcs in Weyl Semimetals. *Physical Review Letters*, **2016**, 116, 066802	7.4	107
39	New type of Weyl semimetal with quadratic double Weyl fermions. *Proceedings of the National Academy of Sciences of the United States of America*, **2016**, 113, 1180-5	11.5	199
38	Newtype large Rashba splitting in quantum well states induced by spin chirality in metal/topological insulator heterostructures. *NPG Asia Materials*, **2016**, 8, e332-e332	10.3	6
37	Atomic-Scale Visualization of Quasiparticle Interference on a Type-II Weyl Semimetal Surface. *Physical Review Letters*, **2016**, 117, 266804	7.4	50
36	Large transverse Hall-like signal in topological Dirac semimetal Cd3As2. *Scientific Reports*, **2016**, 6, 27487	4.9	13
35	Discovery of a new type of topological Weyl fermion semimetal state in MoWTe. *Nature Communications*, **2016**, 7, 13643	17.4	134

34	Experimental observation of two massless Dirac-fermion gases in graphene-topological insulator heterostructure. *2D Materials*, **2016**, 3, 021009	5.9	19
33	Unconventional transformation of spin Dirac phase across a topological quantum phase transition. *Nature Communications*, **2015**, 6, 6870	17.4	28
32	Discovery of a Weyl fermion state with Fermi arcs in niobium arsenide. *Nature Physics*, **2015**, 11, 748-754	16.2	674
31	Significantly enhanced giant Rashba splitting in a thin film of binary alloy. *New Journal of Physics*, **2015**, 17, 083015	2.9	5
30	Observation of Fermi arc surface states in a topological metal. *Science*, **2015**, 347, 294-8	33.3	488
29	Two distinct topological phases in the mixed-valence compound YbB6 and its differences from SmB6. *Physical Review B*, **2015**, 91,	3.3	13
28	Electronic structure, spin-orbit coupling, and interlayer interaction in bulk MoS2 and WS2. *Physical Review B*, **2015**, 91,	3.3	92
27	Surface versus bulk Dirac state tuning in a three-dimensional topological Dirac semimetal. *Physical Review B*, **2015**, 91,	3.3	12
26	Lifshitz transition and Van Hove singularity in a three-dimensional topological Dirac semimetal. *Physical Review B*, **2015**, 92,	3.3	28
25	Fermi surface topology and hot spot distribution in the Kondo lattice system CeB6. *Physical Review B*, **2015**, 92,	3.3	26
24	Tunable spin helical Dirac quasiparticles on the surface of three-dimensional HgTe. *Physical Review B*, **2015**, 92,	3.3	16
23	Direct transition resonance in atomically uniform topological Sb(111) thin films. *Physical Review B*, **2015**, 92,	3.3	2
22	Controlled Synthesis of Organic/Inorganic van der Waals Solid for Tunable Light-Matter Interactions. *Advanced Materials*, **2015**, 27, 7800-8	24	94
21	Experimental discovery of a topological Weyl semimetal state in TaP. *Science Advances*, **2015**, 1, e1501092	14.3	241
20	Non-Kondo-like electronic structure in the correlated rare-earth hexaboride YbB(6). *Physical Review Letters*, **2015**, 114, 016403	7.4	42
19	Thickness dependence of spin polarization and electronic structure of ultra-thin films of MoS2 and related transition-metal dichalcogenides. *Scientific Reports*, **2014**, 4, 6270	4.9	30
18	Observation of a three-dimensional topological Dirac semimetal phase in high-mobility Cd3As2. *Nature Communications*, **2014**, 5, 3786	17.4	938
17	Observation of quantum-tunnelling-modulated spin texture in ultrathin topological insulator Bi2Se3 films. *Nature Communications*, **2014**, 5, 3841	17.4	99

16	Direct observation of the transition from indirect to direct bandgap in atomically thin epitaxial MoSe2. *Nature Nanotechnology*, **2014**, 9, 111-5	28.7	943
15	Nanoscale interplay of strain and doping in a high-temperature superconductor. *Nano Letters*, **2014**, 14, 6749-53	11.5	18
14	Spin-correlated electronic state on the surface of a spin-orbit Mott system. *Physical Review B*, **2014**, 90,	3.3	11
13	Resonant tunneling through discrete quantum states in stacked atomic-layered MoS2. *Nano Letters* , **2014**, 14, 2381-6	11.5	34
12	Rashba effect within the space□harge layer of a semiconductor. *New Journal of Physics*, **2014**, 16, 045003	2.9	6
11	Surface electronic structure of the topological Kondo-insulator candidate correlated electron system SmB6. *Nature Communications*, **2013**, 4, 2991	17.4	267
10	Gated silicene as a tunable source of nearly 100% spin-polarized electrons. *Nature Communications*, **2013**, 4, 1500	17.4	368
9	Imaging the evolution of metallic states in a correlated iridate. *Nature Materials*, **2013**, 12, 707-13	27	63
8	Topological surface states and Dirac point tuning in ternary topological insulators. *Physical Review B*, **2012**, 85,	3.3	141
7	Hedgehog spin texture and Berry□ phase tuning in a magnetic topological insulator. *Nature Physics*, **2012**, 8, 616-622	16.2	308
6	Electronic structures of quasi-one-dimensional ferrimagnetic insulator Ca3Co2O6. *Computer Physics Communications*, **2011**, 182, 93-95	4.2	2
5	Consonant diminution of lattice and electronic coupling between a film and a substrate: Pb on Ge(100). *Physical Review B*, **2011**, 84,	3.3	5
4	Electronic versus lattice match for metal-semiconductor epitaxial growth: Pb on Ge(111). *Physical Review Letters*, **2011**, 107, 066802	7.4	17
3	Charge-orbital ordering and ferroelectric polarization in multiferroic TbMn2O5 from first principles. *Physical Review B*, **2011**, 84,	3.3	19
2	Bilayer oscillation of subband effective masses in Pb/Ge(111) thin-film quantum wells. *Applied Physics Letters*, **2010**, 96, 103106	3.4	7
1	Dispersive resonance bands within the space-charge layer of a metal-semiconductor junction. *Physical Review B*, **2010**, 81,	3.3	9