

Tai C Chiang

List of Publications by Year in descending order

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135
papers

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6246
citing authors

#	ARTICLE	IF	CITATIONS
1	Dirac Fermion Cloning, Moiré Flat Bands, and Magic Lattice Constants in Epitaxial Monolayer Graphene. <i>Advanced Materials</i> , 2022, 34, e2200625.	21.0	9
2	Dimensional crossover and symmetry transformation of charge density waves in VSe_2 . <i>Physical Review B</i> , 2022, 105, .	3.2	1
3	Observation of a smoothly tunable Dirac point in $Ge_{1-x}Sb_x$. <i>Physical Review Materials</i> , 2022, 6, .	3.2	0
4	Emergence of topological and trivial interface states in VSe_2/Bi_2Te_3 films coupled to Bi_2Te_3 . <i>Physical Review B</i> , 2022, 105, .	3.2	0
5	Emergent and Tunable Topological Surface States in Complementary Sb/Bi_2Te_3 and Bi_2Te_3/Sb Thin-Film Heterostructures. <i>ACS Nano</i> , 2022, 16, 9953-9959.	14.6	2
6	Coherent Electronic Band Structure of $TiTe_2/TiSe_2$ Moiré Bilayer. <i>ACS Nano</i> , 2021, 15, 3359-3364.	14.6	7
7	Dimensional crossover and band topology evolution in ultrathin semimetallic $NiTe_2$ films. <i>Npj 2D Materials and Applications</i> , 2021, 5, .	7.9	13
8	Modulating effect of evanescent waves on thin film growth. <i>Physical Review B</i> , 2021, 104, .	3.2	1
9	Interfacial electron-phonon coupling and quantum confinement in ultrathin Yb films on graphite. <i>Physical Review B</i> , 2021, 104, .	3.2	1
10	Antimony oxide nanostructures in the monolayer limit: self-assembly of van der Waals-bonded molecular building blocks. <i>Nanotechnology</i> , 2021, 32, 125701.	2.6	2
11	Charge Instability in Single-Layer $TiTe_2$ Mediated by van der Waals Bonding to Substrates. <i>Physical Review Letters</i> , 2020, 125, 176405.	7.8	10
12	First-principles study of the topological surface states of $\hat{I}\pm$ -Sn(111). <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 2020, 384, 126782.	2.1	5
13	Massive Suppression of Proximity Pairing in Topological Bi_2Te_3 . <i>Physical Review Letters</i> , 2020, 124, 036402.	7.8	7
14	Dimensionality-Mediated Semimetal-Semiconductor Transition in Ultrathin $PtTe_2$ Films. <i>Physical Review Letters</i> , 2020, 124, 036402.	7.8	54
15	Realization of Symmetry-Enforced Two-Dimensional Dirac Fermions in Nonsymmorphic $\hat{I}\pm$ -Bismuthene. <i>ACS Nano</i> , 2020, 14, 1888-1894.	14.6	45
16	Surface-state Coulomb repulsion accelerates a metal-insulator transition in topological semimetal nanofilms. <i>Science Advances</i> , 2020, 6, eaaz5015.	10.3	11
17	Band Topology of Bismuth Quantum Films. <i>Crystals</i> , 2019, 9, 510.	2.2	20
18	Probing the origin of extreme magnetoresistance in Pr/Sm mono-antimonides/bismuthides. <i>Physical Review B</i> , 2019, 99, .	3.2	12

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19	Transformation of the Topological Phase and the Edge Modes of Double-Bilayer Bismuthene with Inter-Bilayer Spacing. Crystals, 2019, 9, 266.	2.2	1
20	Comment on "Chiral Phase Transition in Charge Ordered 1T - TiSe ₂ ". Physical Review Letters, 2019, 122, 229701.	7.8	8
21	Atomic-Scale Chemical Conversion of Single-Layer Transition Metal Dichalcogenides. ACS Nano, 2019, 13, 5611-5615.	14.6	2
22	Symmetry-breaking and spin-blockage effects on carrier dynamics in single-layer tungsten diselenide. Physical Review B, 2019, 100, .	3.2	3
23	Survey of electronic structure of Bi and Sb thin films by first-principles calculations and photoemission measurements. Journal of Physics and Chemistry of Solids, 2019, 128, 109-117.	4.0	11
24	Gapped electronic structure of epitaxial stanene on InSb(111). Physical Review B, 2018, 97, .	3.2	91
25	Superconducting pairing of topological surface states in bismuth selenide films on niobium. Science Advances, 2018, 4, eaar7214.	10.3	36
26	Unique Gap Structure and Symmetry of the Charge Density Wave in Single-Layer VSe_2 . Physical Review Letters, 2018, 121, 196402.	7.8	139
27	Large quantum-spin-Hall gap in single-layer $1T'WSe_2$. Nature Communications, 2018, 9, 2003.	12.8	117
28	Controlling the surface photovoltage on WSe_2 by surface chemical modification. Applied Physics Letters, 2018, 112, .	3.3	7
29	Tunable electronic structure and surface states in rare-earth monobismuthides with partially filled f shell. Physical Review B, 2018, 98, .	3.2	31
30	In Situ Strain Tuning of the Dirac Surface States in Bi_2Se_3 Films. Nano Letters, 2018, 18, 5628-5632.	9.1	27
31	Single-layer dual germanene phases on Ag(111). Physical Review Materials, 2018, 2, .	2.4	72
32	Experimental and theoretical electronic structure and symmetry effects in ultrathin $NbSe_2$ films. Physical Review Materials, 2018, 2, .	2.4	11
33	Interfacial stability of ultrathin films of magnetite Fe_3O_4 (111) on Al_2O_3 (001) grown by ozone-assisted molecular-beam epitaxy. Applied Physics Letters, 2017, 110, .	3.3	10
34	Dirac Fermions in Borophene. Physical Review Letters, 2017, 118, 096401.	7.8	353
35	Visualizing Type-II Weyl Points in Tungsten Ditelluride by Quasiparticle Interference. ACS Nano, 2017, 11, 11459-11465.	14.6	37
36	Experimental realization of two-dimensional Dirac nodal line fermions in monolayer Cu_2Si . Nature Communications, 2017, 8, 1007.	12.8	219

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37	Emergence of charge density waves and a pseudogap in single-layer TiTe ₂ . Nature Communications, 2017, 8, 516.	12.8	90
38	X-ray study of the charge-density-wave transition in single-layer TiS . Physical Review B, 2017, 95, .	3.2	23
39	Reduction of Intrinsic Electron Emission from Photocathodes Using Ordered Crystalline Surfaces. Physical Review Letters, 2017, 118, 164802.	7.8	16
40	Single atomic layer allotrope of bismuth with rectangular symmetry. Physical Review B, 2017, 96, .	3.2	19
41	Signatures of exciton condensation in a transition metal dichalcogenide. Science, 2017, 358, 1314-1317.	12.6	307
42	Elemental Topological Dirac Semimetal: InSb . Physical Review Letters, 2017, 118, 146402.	7.8	98
43	Femtosecond to picosecond transient effects in WSe ₂ observed by pump-probe angle-resolved photoemission spectroscopy. Scientific Reports, 2017, 7, 15981.	3.3	11
44	Proving Nontrivial Topology of Pure Bismuth by Quantum Confinement. Physical Review Letters, 2016, 117, 236402.	7.8	72
45	Dimensional Effects on the Charge Density Waves in Ultrathin Films of TiSe_2 . Nano Letters, 2016, 16, 6331-6336.	9.1	61
46	Spin texture in type-II Weyl semimetal WTe_2 . Physical Review B, 2016, 94, .	3.2	19
47	Hidden Order and Dimensional Crossover of the Charge Density Waves in TiSe_2 . Scientific Reports, 2016, 6, 37910.	3.3	40
48	An Effective Approach to Improving Cadmium Telluride (111)A Surface by Molecular-Beam-Epitaxy Growth of Tellurium Monolayer. ACS Applied Materials & Interfaces, 2016, 8, 726-735.	8.0	2
49	Engineering Electronic Structure of a Two-Dimensional Topological Insulator Bi(111) Bilayer on Sb Nanofilms by Quantum Confinement Effect. ACS Nano, 2016, 10, 3859-3864.	14.6	29
50	Spectroscopic studies of CdTe(111) bulk and surface electronic structure. Physical Review B, 2015, 91, .	3.2	11
51	Reflection thermal diffuse x-ray scattering for quantitative determination of phonon dispersion relations. Physical Review B, 2015, 92, .	3.2	5
52	Direct transition resonance in atomically uniform topological Sb(111) thin films. Physical Review B, 2015, 92, .	3.2	3
53	Surface Collective Modes in the Topological Insulators Bi_2Te_3 . Physical Review Letters, 2015, 115, 257402.	7.8	21
54	Photoemission Circular Dichroism and Spin Polarization of the Topological Surface States in Ultrathin Bi_2Te_3 Films. Physical Review Letters, 2015, 115, 016801.	7.8	21

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55	Charge density wave transition in single-layer titanium diselenide. Nature Communications, 2015, 6, 8943.	12.8	208
56	Dirac semimetal films as spin conductors on topological substrates. Physical Review B, 2015, 91, .	3.2	3
57	Tantalus, the First Dedicated Synchrotron Radiation Source. Synchrotron Radiation News, 2015, 28, 20-23.	0.8	6
58	Rashba splitting and dichroism of surface states in Bi/Ag surface alloy. Journal of Electron Spectroscopy and Related Phenomena, 2015, 201, 36-41.	1.7	6
59	First-principles and spectroscopic studies of Bi(110) films: Thickness-dependent Dirac modes and property oscillations. Physical Review B, 2014, 90, .	3.2	32
60	Electronic structure of the quantum spin Hall parent compound CdTe and related topological issues. Physical Review B, 2014, 90, .	3.2	11
61	Topological states in Bi_2Se_3 created by cleavage within a quintuple layer: Analysis in terms of the Shockley criterion. Physical Review B, 2014, 89, .	3.2	11
62	STM driven modification of bismuth nanostructures. Surface Science, 2014, 621, 140-145.	1.9	9
63	Valence-band study of SmO_3 using high-resolution ultraviolet photoelectron spectroscopy. Physical Review B, 2014, 89, .	3.2	4
64	Topological quantum well resonances in metal overlayers. Physical Review B, 2013, 87, .	3.2	7
65	Origin of giant Rashba spin splitting in Bi/Ag surface alloys. Physical Review B, 2013, 88, .	3.2	34
66	Topological spin-polarized electron layer above the surface of Ca-terminated Bi_2Se_3 . Physical Review B, 2013, 87, .	3.2	8
67	Electronic Size Effects in Three-Dimensional Nanostructures. Nano Letters, 2013, 13, 43-47.	9.1	49
68	Topological phase transition and Dirac fermion transfer in Bi_2Se_3 films. Europhysics Letters, 2013, 101, 27004.	2.0	11
69	Interfacial Bonding and Structure of Bi_2Te_3 Insulator Films on Si(111) Determined by Surface X-Ray Scattering. Physical Review Letters, 2013, 110, 226103.	7.8	11
70	X-ray diffraction studies of trilayer oscillations in the preferred thickness of In films on Si(111). Physical Review B, 2013, 87, .	3.2	8
71	Topological limit of ultrathin quasi-free-standing Bi_2Te_3 illuminating the Surface Spin Texture of the Giant-Rashba Quantum-Well System Grown on Si(111). Physical Review B, 2012, 85, .	3.2	26
72	Topological phase transition and Dirac fermion transfer in Bi_2Te_3 films grown on Si(111). Physical Review B, 2012, 85, .	7.8	38
	Letters, 2012, 108, 186403.		

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73	Interfacial Protection of Topological Surface States in Ultrathin Sb Films. Physical Review Letters, 2012, 108, 176401.	7.8	69
74	Controlling the Topology of Fermi Surfaces in Metal Nanofilms. Physical Review Letters, 2012, 109, 026802.	7.8	4
75	Real-Time Reciprocal Space Mapping of Nano-Islands Induced by Quantum Confinement. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2011, 42, 32-36.	2.2	1
76	Quantum electronic stability of atomically uniform films. , 2011, , 22-51.		0
77	Adsorption and abstraction reactions of HCl on a single Si(100) dangling bond. Physical Review B, 2011, 83, .	3.2	10
78	Passage from Spin-Polarized Surface States to Unpolarized Quantum Well States in Topologically Nontrivial Sb Films. Physical Review Letters, 2011, 107, 036802.	7.8	61
79	Visualizing Electronic Chirality and Berry Phases in Graphene Systems Using Photoemission with Circularly Polarized Light. Physical Review Letters, 2011, 107, 166803.	7.8	175
80	Symmetry-constrained reorganization of Dirac cones in topological insulators by surface modification. Physical Review B, 2011, 84, .	3.2	9
81	Electronic versus Lattice Match for Metal-Semiconductor Epitaxial Growth: Pb on Ge(111). Physical Review Letters, 2011, 107, 066802.	7.8	20
82	Quantum growth of a metal/insulator system: Lead on sapphire. Applied Physics Letters, 2010, 97, .	3.3	2
83	Phonon-Induced Gaps in Graphene and Graphite Observed by Angle-Resolved Photoemission. Physical Review Letters, 2010, 105, 136804.	7.8	36
84	Studying structural phase transitions with X-ray thermal diffuse scattering. Phase Transitions, 2010, 83, 99-106.	1.3	1
85	Phonon dispersions and anomalies of MgCNi_2 superconductors determined by inelastic x-ray scattering. Physical Review B, 2010, 82, .	3.2	16
86	Coherent electronic grating cavity modes in corrugated ultrathin metal films. Applied Physics Letters, 2009, 95, 243114.	3.3	2
87	Electronic structure and surface-mediated metastability of Bi films on Si(111)- $\sqrt{7} \times \sqrt{7}$ Å ⁻² by angle-resolved photoemission spectroscopy. Physical Review B, 2009, 80, .	3.2	41
88	Phase Relations Associated with One-Dimensional Shell Effects in Thin Metal Films. Physical Review Letters, 2009, 102, 236803.	7.8	38
89	Using Electronic Coherence to Probe a Deeply Embedded Quantum Well in Bimetallic Pb/Ag Films on Si(111). Physical Review Letters, 2009, 103, 246801.	7.8	7
90	Surface vs. bulk electronic structure of silver determined by photoemission. Europhysics Letters, 2009, 88, 67004.	2.0	17

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91	Analyticity of the phase shift and reflectivity of electrons at a metal-semiconductor interface. Physical Review B, 2009, 79, .	3.2	14
92	Direct Mapping of Phonon Dispersion Relations in Copper by Momentum-Resolved X-Ray Calorimetry. Physical Review Letters, 2008, 101, 085504.	7.8	8
93	Interface-induced complex electronic interference structures in Ag films on Ge(111). Physical Review B, 2008, 78, .	3.2	16
94	Central peak and narrow component in x-ray scattering measurements near the displacive phase transition in SrTiO_3 . Physical Review B, 2008, 78, .	3.2	13
95	Quantized electronic structure and growth of Pb films on highly oriented pyrolytic graphite. Physical Review B, 2008, 78, .	3.2	19
96	Enhancement of subband effective mass in Ag/Ge(111) thin film quantum wells. Physical Review B, 2008, 78, .	3.2	28
97	Dynamic Fluctuations and Static Speckle in Critical X-Ray Scattering from SrTiO_3 . Physical Review Letters, 2007, 98, 065501.	7.8	35
98	A six-circle diffractometer system for synchrotron X-ray studies of surfaces and thin film growth by molecular beam epitaxy. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2007, 572, 942-947.	1.6	13
99	Coherent Electronic Fringe Structure in Incommensurate Silver-Silicon Quantum Wells. Science, 2006, 314, 804-806.	12.6	61
100	Modification of Surface States in Ultrathin Films via Hybridization with the Substrate: A Study of Ag on Ge. Physical Review Letters, 2006, 96, 036802.	7.8	48
101	Quantum size effects in the surface energy of $\text{Pb}/\text{Si}(111)$ film nanostructures studied by surface x-ray diffraction and model calculations. Physical Review B, 2005, 72, .	3.2	58
102	Surface x-ray-diffraction study and quantum well analysis of the growth and atomic-layer structure of ultrathin $\text{Pb}/\text{Si}(111)$ films. Physical Review B, 2005, 72, .	3.2	29
103	Crystal dynamics of fcc Pu-Ga alloy by high-resolution inelastic x-ray scattering. Physical Review B, 2005, 72, .	3.2	40
104	Chemical Tuning of Metal-Semiconductor Interfaces. Physical Review Letters, 2004, 93, 136801.	7.8	34
105	Quantum Beating Patterns Observed in the Energetics of Pb Film Nanostructures. Physical Review Letters, 2004, 93, 036103.	7.8	74
106	Absolute determination of film thickness from photoemission: Application to atomically uniform films of Pb on Si. Applied Physics Letters, 2004, 85, 1235-1237.	3.3	17
107	PHYSICS: Superconductivity in Thin Films. Science, 2004, 306, 1900-1901.	12.6	45
108	Thermal Stability and Electronic Structure of Atomically Uniform Pb Films on Si(111). Physical Review Letters, 2004, 93, 026802.	7.8	152

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109	Imaging phonons in a fcc Pu–Ga alloy by thermal diffuse x-ray scattering. Applied Physics Letters, 2004, 84, 3747-3749.	3.3	16
110	Atomistics of Ge Deposition on Si(100) by Atomic Layer Epitaxy. Physical Review Letters, 2003, 90, 046102.	7.8	39
111	Alternating Layer and Island Growth of Pb on Si by Spontaneous Quantum Phase Separation. Physical Review Letters, 2003, 90, 076104.	7.8	84
112	Large Electron-Phonon Coupling at an Interface. Physical Review Letters, 2002, 88, 256802.	7.8	100
113	Phonon dispersions in niobium determined by x-ray transmission scattering. Physical Review B, 2002, 66, .	3.2	15
114	Atomic-layer-resolved quantum oscillations in the work function: Theory and experiment for Ag/Fe(100). Physical Review B, 2002, 66, .	3.2	89
115	Electron-Hole Coupling and the Charge Density Wave Transition in TiSe ₂ . Physical Review Letters, 2002, 88, 226402.	7.8	199
116	Quantum Electronic Stability of Atomically Uniform Films. Science, 2001, 292, 1131-1133.	12.6	155
117	X-Ray Studies of Phonon Softening in TiSe ₂ . Physical Review Letters, 2001, 86, 3799-3802.	7.8	130
118	Photoemission spectroscopy in solids. Annalen Der Physik, 2001, 10, 61-74.	2.4	51
119	Photoemission spectroscopy in solids. , 2001, 10, 61.		2
120	Photoemission spectroscopy in solids. Annalen Der Physik, 2001, 10, 61-74.	2.4	2
121	Photoemission studies of quantum well states in thin films. Surface Science Reports, 2000, 39, 181-235.	7.2	516
122	d-Band Quantum Well States. Physical Review Letters, 2000, 84, 3410-3413.	7.8	50
123	Sn/Ge(111) Surface Charge-Density-Wave Phase Transition. Physical Review Letters, 2000, 85, 3684-3687.	7.8	33
124	Determination of Phonon Dispersions from X-Ray Transmission Scattering: The Example of Silicon. Physical Review Letters, 1999, 83, 3317-3319.	7.8	83
125	Quantum-Well States as Fabry-Pérot Modes in a Thin-Film Electron Interferometer. Science, 1999, 283, 1709-1711.	12.6	242
126	Quasiparticle Lifetime in Macroscopically Uniform Ag/Fe(100) Quantum Wells. Physical Review Letters, 1998, 81, 5632-5635.	7.8	69

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127	Surface photoemission in Ag(100). Physical Review B, 1997, 55, 1871-1875.	3.2	41
128	Atomic-level investigation of the growth of Si/Ge by ultrahigh vacuum chemical vapor deposition. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 1997, 15, 919-926.	2.1	5
129	Interference between Bulk and Surface Photoemission Transitions in Ag(111). Physical Review Letters, 1996, 77, 1167-1170.	7.8	94
130	FINE STRUCTURE IN CORE LEVEL PHOTOEMISSION INTENSITIES – A STUDY OF THE Si(111)-(7 \times 7) SURFACE. Modern Physics Letters B, 1994, 08, 1889-1903.	1.9	0
131	A THEORETICAL AND EXPERIMENTAL STUDY OF ELECTRONIC CONFINEMENT, COUPLING, AND TRANSLAYER INTERACTION IN NOBLE-METAL QUANTUM-WELL STRUCTURES. Modern Physics Letters B, 1994, 08, 1075-1096.	1.9	3
132	Ge Segregation and Surface Roughening During Si Growth on Ge(001)2 \times 8 by Gas-Source Molecular Beam Epitaxy from Si ₂ H ₆ . Materials Research Society Symposia Proceedings, 1992, 280, 281.	0.1	0
133	High-resolution imaging of a dislocation on Cu(111). Physical Review Letters, 1990, 65, 1607-1610.	7.8	49
134	Structural Analysis and Electronic Properties of In on Si(100) from Synchrotron Photoemission Studies. Materials Research Society Symposia Proceedings, 1987, 94, 219.	0.1	6
135	On the Development of Order and Interfaces during the Growth of Ultrathin La ₂ CuO ₄ Films by Molecular Beam Epitaxy. ACS Applied Electronic Materials, 0, , .	4.3	2