

Tai C Chiang

List of Publications by Year in descending order

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135
papers

6,100
citations

76326

40
h-index

74163

75
g-index

137
all docs

137
docs citations

137
times ranked

6246
citing authors

#	ARTICLE	IF	CITATIONS
1	Photoemission studies of quantum well states in thin films. Surface Science Reports, 2000, 39, 181-235.	7.2	516
2	Dirac Fermions in Borophene. Physical Review Letters, 2017, 118, 096401.	7.8	353
3	Signatures of exciton condensation in a transition metal dichalcogenide. Science, 2017, 358, 1314-1317.	12.6	307
4	Quantum-Well States as Fabry-Pérot Modes in a Thin-Film Electron Interferometer. Science, 1999, 283, 1709-1711.	12.6	242
5	Experimental realization of two-dimensional Dirac nodal line fermions in monolayer Cu ₂ Si. Nature Communications, 2017, 8, 1007.	12.8	219
6	Charge density wave transition in single-layer titanium diselenide. Nature Communications, 2015, 6, 8943.	12.8	208
7	Electron-Hole Coupling and the Charge Density Wave Transition in TiSe ₂ . Physical Review Letters, 2002, 88, 226402.	7.8	199
8	Visualizing Electronic Chirality and Berry Phases in Graphene Systems Using Photoemission with Circularly Polarized Light. Physical Review Letters, 2011, 107, 166803.	7.8	175
9	Quantum Electronic Stability of Atomically Uniform Films. Science, 2001, 292, 1131-1133.	12.6	155
10	Thermal Stability and Electronic Structure of Atomically Uniform Pb Films on Si(111). Physical Review Letters, 2004, 93, 026802.	7.8	152
11	Unique Gap Structure and Symmetry of the Charge Density Wave in Single-Layer VSe_2 . Physical Review Letters, 2018, 121, 196402.	7.8	139
12	X-Ray Studies of Phonon Softening in TiSe ₂ . Physical Review Letters, 2001, 86, 3799-3802.	7.8	130
13	Large quantum-spin-Hall gap in single-layer WSe_2 . Nature Communications, 2018, 9, 2003.	12.8	117
14	Spin texture in type-II Weyl semimetal WTe_2 . Physical Review B, 2016, 94, .	7.8	102
15	Large Electron-Phonon Coupling at an Interface. Physical Review Letters, 2002, 88, 256802.	7.8	100
16	Elemental Topological Dirac Semimetal: $\hat{\Gamma}_\pm$ -Sn on InSb(111). Physical Review Letters, 2017, 118, 146402.	7.8	98
17	Interference between Bulk and Surface Photoemission Transitions in Ag(111). Physical Review Letters, 1996, 77, 1167-1170.	7.8	94
18	Gapped electronic structure of epitaxial stanene on InSb(111). Physical Review B, 2018, 97, .	3.2	91

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19	Emergence of charge density waves and a pseudogap in single-layer TiTe ₂ . Nature Communications, 2017, 8, 516.	12.8	90
20	Atomic-layer-resolved quantum oscillations in the work function: Theory and experiment for Ag/Fe(100). Physical Review B, 2002, 66, .	3.2	89
21	Alternating Layer and Island Growth of Pb on Si by Spontaneous Quantum Phase Separation. Physical Review Letters, 2003, 90, 076104.	7.8	84
22	Determination of Phonon Dispersions from X-Ray Transmission Scattering: The Example of Silicon. Physical Review Letters, 1999, 83, 3317-3319.	7.8	83
23	Quantum Beating Patterns Observed in the Energetics of Pb Film Nanostructures. Physical Review Letters, 2004, 93, 036103.	7.8	74
24	Proving Nontrivial Topology of Pure Bismuth by Quantum Confinement. Physical Review Letters, 2016, 117, 236402.	7.8	72
25	Single-layer dual germanene phases on Ag(111). Physical Review Materials, 2018, 2, .	2.4	72
26	Quasiparticle Lifetime in Macroscopically Uniform Ag/Fe(100) Quantum Wells. Physical Review Letters, 1998, 81, 5632-5635.	7.8	69
27	Interfacial Protection of Topological Surface States in Ultrathin Sb Films. Physical Review Letters, 2012, 108, 176401.	7.8	69
28	Coherent Electronic Fringe Structure in Incommensurate Silver-Silicon Quantum Wells. Science, 2006, 314, 804-806.	12.6	61
29	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
30	Dimensional Effects on the Charge Density Waves in Ultrathin Films of TiSe ₂ . Nano Letters, 2016, 16, 6331-6336.	9.1	61
31	Quantum size effects in the surface energy of Pb ²⁺ /Si(111)film nanostructures studied by surface x-ray diffraction and model calculations. Physical Review B, 2005, 72, .	3.2	58
32	Dimensionality-Mediated Semimetal-Semiconductor Transition in Ultrathin PtTe_2 Films. Physical Review Letters, 2020, 124, 036402.	7.8	54
33	Photoemission spectroscopy in solids. Annalen Der Physik, 2001, 10, 61-74.	2.4	51
34	d-Band Quantum Well States. Physical Review Letters, 2000, 84, 3410-3413.	7.8	50
35	High-resolution imaging of a dislocation on Cu(111). Physical Review Letters, 1990, 65, 1607-1610.	7.8	49
36	Electronic Size Effects in Three-Dimensional Nanostructures. Nano Letters, 2013, 13, 43-47.	9.1	49

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55	First-principles and spectroscopic studies of Bi(110) films: Thickness-dependent Dirac modes and property oscillations. <i>Physical Review B</i> , 2014, 90, .	3.2	32
56	Tunable electronic structure and surface states in rare-earth monobismuthides with partially filled shell. <i>Physical Review B</i> , 2018, 98, .	3.2	31
57	Surface x-ray-diffraction study and quantum well analysis of the growth and atomic-layer structure of ultrathin Pb α Si(111)films. <i>Physical Review B</i> , 2005, 72, .	3.2	29
58	Engineering Electronic Structure of a Two-Dimensional Topological Insulator Bi(111) Bilayer on Sb Nanofilms by Quantum Confinement Effect. <i>ACS Nano</i> , 2016, 10, 3859-3864.	14.6	29
59	Enhancement of subband effective mass in Ag/Ge(111) thin film quantum wells. <i>Physical Review B</i> , 2008, 78, .	3.2	28
60	In Situ Strain Tuning of the Dirac Surface States in Bi ₂ Se ₃ Films. <i>Nano Letters</i> , 2018, 18, 5628-5632.	9.1	27
61	Topological limit of ultrathin quasi-free-standing Bi ₂ Te ₃ films. <i>Physical Review B</i> , 2018, 95, .	3.2	26
62	X-ray study of the charge-density-wave transition in single-layer Bi ₂ Te ₃ . <i>Physical Review B</i> , 2017, 95, .	3.2	23
63	Photoemission Circular Dichroism and Spin Polarization of the Topological Surface States in Ultrathin Bi ₂ Te ₃ Films. <i>Physical Review Letters</i> , 2015, 115, 016801.	7.8	21
64	Electronic versus Lattice Match for Metal-Semiconductor Epitaxial Growth: Pb on Ge(111). <i>Physical Review Letters</i> , 2011, 107, 066802.	7.8	20
65	Band Topology of Bismuth Quantum Films. <i>Crystals</i> , 2019, 9, 510.	2.2	20
66	Quantized electronic structure and growth of Pb films on highly oriented pyrolytic graphite. <i>Physical Review B</i> , 2008, 78, .	3.2	19
67	Single atomic layer allotrope of bismuth with rectangular symmetry. <i>Physical Review B</i> , 2017, 96, .	3.2	19
68	Absolute determination of film thickness from photoemission: Application to atomically uniform films of Pb on Si. <i>Applied Physics Letters</i> , 2004, 85, 1235-1237.	3.3	17
69	Surface vs. bulk electronic structure of silver determined by photoemission. <i>Europhysics Letters</i> , 2009, 88, 67004.	2.0	17
70	Imaging phonons in a fcc Pu α -Ga alloy by thermal diffuse x-ray scattering. <i>Applied Physics Letters</i> , 2004, 84, 3747-3749.	3.3	16
71	Interface-induced complex electronic interference structures in Ag films on Ge(111). <i>Physical Review B</i> , 2008, 78, .	3.2	16
72	Reduction of Intrinsic Electron Emission from Photocathodes Using Ordered Crystalline Surfaces. <i>Physical Review Letters</i> , 2017, 118, 164802.	7.8	16

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73	Phonon dispersions in niobium determined by x-ray transmission scattering. Physical Review B, 2002, 66, .	3.2	15
74	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	15
75	Analyticity of the phase shift and reflectivity of electrons at a metal-semiconductor interface. Physical Review B, 2009, 79, .	3.2	14
76	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
77	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
78	Dimensional crossover and band topology evolution in ultrathin semimetallic NiTe_2 films. Npj 2D Materials and Applications, 2021, 5, .	7.9	13
79	Probing the origin of extreme magnetoresistance in Pr/Sm mono-antimonides/bismuthides. Physical Review B, 2019, 99, .	3.2	12
80	Topological phase transition and Dirac fermion transfer in Bi_2Se_3 films. Europhysics Letters, 2013, 101, 27004.	2.0	11
81	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
82	Electronic structure of the quantum spin Hall parent compound CdTe and related topological issues. Physical Review B, 2014, 90, .	3.2	11
83	Spectroscopic studies of $\text{CdTe}(111)$ bulk and surface electronic structure. Physical Review B, 2015, 91, .	3.2	11
84	Femtosecond to picosecond transient effects in WSe_2 observed by pump-probe angle-resolved photoemission spectroscopy. Scientific Reports, 2017, 7, 15981.	3.3	11
85	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
86	Surface-state Coulomb repulsion accelerates a metal-insulator transition in topological semimetal nanofilms. Science Advances, 2020, 6, eaaz5015.	10.3	11
87	Experimental and theoretical electronic structure and symmetry effects in ultrathin NbSe_2 films. Physical Review Materials, 2018, 2, .	2.4	11
88	Adsorption and abstraction reactions of HCl on a single Si(100) dangling bond. Physical Review B, 2011, 83, .	3.2	10
89	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
90	Charge Instability in Single-Layer TiTe_2 Mediated by van der Waals Bonding to Substrates. Physical Review Letters, 2020, 125, 176405.	7.8	10

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91	Symmetry-constrained reorganization of Dirac cones in topological insulators by surface modification. <i>Physical Review B</i> , 2011, 84, .	3.2	9
92	STM driven modification of bismuth nanostructures. <i>Surface Science</i> , 2014, 621, 140-145.	1.9	9
93	Dirac Fermion Cloning, Moiré Flat Bands, and Magic Lattice Constants in Epitaxial Monolayer Graphene. <i>Advanced Materials</i> , 2022, 34, e2200625.	21.0	9
94	Direct Mapping of Phonon Dispersion Relations in Copper by Momentum-Resolved X-Ray Calorimetry. <i>Physical Review Letters</i> , 2008, 101, 085504.	7.8	8
95	Topological spin-polarized electron layer above the surface of Ca-terminated Bi ₂ Se ₃ . <i>Physical Review B</i> , 2013, 87, .	3.2	8
96	X-ray diffraction studies of trilayer oscillations in the preferred thickness of In films on Si(111). <i>Physical Review B</i> , 2013, 87, .	3.2	8
97	Comment on "Chiral Phase Transition in Charge Ordered 1T - TiSe ₂ " <i>Physical Review Letters</i> , 2019, 122, 229701.	7.8	8
98	Using Electronic Coherence to Probe a Deeply Embedded Quantum Well in Bimetallic Pb/Ag Films on Si(111). <i>Physical Review Letters</i> , 2009, 103, 246801.	7.8	7
99	Topological quantum well resonances in metal overlayers. <i>Physical Review B</i> , 2013, 87, .	3.2	7
100	Controlling the surface photovoltage on WSe ₂ by surface chemical modification. <i>Applied Physics Letters</i> , 2018, 112, .	3.3	7
101	Massive Suppression of Proximity Pairing in Topological $\text{Bi}_2\text{Te}_3/\text{Bi}_2\text{Se}_3$ Bilayers. <i>Physical Review B</i> , 2017, 95, 040401.	7.8	7
102	Coherent Electronic Band Structure of $\text{TiTe}_2/\text{TiSe}_2$ Moiré Bilayer. <i>ACS Nano</i> , 2021, 15, 3359-3364.	14.6	7
103	Dimensional crossover and symmetry transformation of charge density waves in $\text{VSe}_2/\text{NbSe}_2$ heterostructure. <i>Physical Review B</i> , 2022, 105, .	7.8	7
104	Structural Analysis and Electronic Properties of Bi_2Te_3 on Si(100) from Synchrotron Photoemission Studies. <i>Materials Research Society Symposia Proceedings</i> , 1987, 94, 219.	0.1	6
105	Phonon dispersions and anomalies of MgCNi_3 superconductors determined by inelastic x-ray scattering. <i>Physical Review B</i> , 2010, 82, .	3.3	6
106	Tantalus, the First Dedicated Synchrotron Radiation Source. <i>Synchrotron Radiation News</i> , 2015, 28, 20-23.	0.8	6
107	Rashba splitting and dichroism of surface states in Bi/Ag surface alloy. <i>Journal of Electron Spectroscopy and Related Phenomena</i> , 2015, 201, 36-41.	1.7	6
108	Atomic-level investigation of the growth of Si/Ge by ultrahigh vacuum chemical vapor deposition. <i>Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films</i> , 1997, 15, 919-926.	2.1	5

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109	Reflection thermal diffuse x-ray scattering for quantitative determination of phonon dispersion relations. <i>Physical Review B</i> , 2015, 92, .	3.2	5
110	First-principles study of the topological surface states of $\text{In}_2\text{Sn}(111)$. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 2020, 384, 126782.	2.1	5
111	Controlling the Topology of Fermi Surfaces in Metal Nanofilms. <i>Physical Review Letters</i> , 2012, 109, 026802.	7.8	4
112	Valence-band study of SmO_3 using high-resolution ultraviolet photoelectron spectroscopy. <i>Physical Review B</i> , 2014, 89, .	3.2	4
113	A THEORETICAL AND EXPERIMENTAL STUDY OF ELECTRONIC CONFINEMENT, COUPLING, AND TRANSLAYER INTERACTION IN NOBLE-METAL QUANTUM-WELL STRUCTURES. <i>Modern Physics Letters B</i> , 1994, 08, 1075-1096.	1.9	3
114	Direct transition resonance in atomically uniform topological $\text{Sb}(111)$ thin films. <i>Physical Review B</i> , 2015, 92, .	3.2	3
115	Dirac semimetal films as spin conductors on topological substrates. <i>Physical Review B</i> , 2015, 91, .	3.2	3
116	Symmetry-breaking and spin-blockage effects on carrier dynamics in single-layer tungsten diselenide. <i>Physical Review B</i> , 2019, 100, .	3.2	3
117	Coherent electronic grating cavity modes in corrugated ultrathin metal films. <i>Applied Physics Letters</i> , 2009, 95, 243114.	3.3	2
118	Quantum growth of a metal/insulator system: Lead on sapphire. <i>Applied Physics Letters</i> , 2010, 97, .	3.3	2
119	An Effective Approach to Improving Cadmium Telluride (111)A Surface by Molecular-Beam-Epitaxy Growth of Tellurium Monolayer. <i>ACS Applied Materials & Interfaces</i> , 2016, 8, 726-735.	8.0	2
120	Atomic-Scale Chemical Conversion of Single-Layer Transition Metal Dichalcogenides. <i>ACS Nano</i> , 2019, 13, 5611-5615.	14.6	2
121	Photoemission spectroscopy in solids. , 2001, 10, 61.		2
122	Photoemission spectroscopy in solids. <i>Annalen Der Physik</i> , 2001, 10, 61-74.	2.4	2
123	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
124	On the Development of Order and Interfaces during the Growth of Ultrathin La_2CuO_4 Films by Molecular Beam Epitaxy. <i>ACS Applied Electronic Materials</i> , 0, , .	4.3	2
125	Emergent and Tunable Topological Surface States in Complementary $\text{Sb/Bi}_2\text{Te}_3$ and $\text{Bi}_2\text{Te}_3/\text{Sb}$ Thin-Film Heterostructures. <i>ACS Nano</i> , 2022, 16, 9953-9959.	14.6	2
126	Studying structural phase transitions with X-ray thermal diffuse scattering. <i>Phase Transitions</i> , 2010, 83, 99-106.	1.3	1

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127	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
128	Transformation of the Topological Phase and the Edge Modes of Double-Bilayer Bismuthene with Inter-Bilayer Spacing. Crystals, 2019, 9, 266.	2.2	1
129	Modulating effect of evanescent waves on thin film growth. Physical Review B, 2021, 104, .	3.2	1
130	Interfacial electron-phonon coupling and quantum confinement in ultrathin Yb films on graphite. Physical Review B, 2021, 104, .	3.2	1
131	Ge Segregation and Surface Roughening During Si Growth on Ge(001)2Å—l by Gas-Source Molecular Beam Epitaxy from Si ₂ H ₆ . Materials Research Society Symposia Proceedings, 1992, 280, 281.	0.1	0
132	FINE STRUCTURE IN CORE LEVEL PHOTOEMISSION INTENSITIES A STUDY OF THE Si(111)(7Å-7) SURFACE. Modern Physics Letters B, 1994, 08, 1889-1903.	1.9	0
133	Quantum electronic stability of atomically uniform films. , 2011, , 22-51.		0
134	Observation of a smoothly tunable Dirac point in Ge_2Se_2 films coupled to VSe_2 interface states in $\text{VSe}_2/\text{Ge}_2\text{Se}_2/\text{VSe}_2$ heterostructure. Physical Review Materials, 2022, 6, .	3.2	0
135	Observation of a smoothly tunable Dirac point in Ge_2Se_2 films coupled to VSe_2 interface states in $\text{VSe}_2/\text{Ge}_2\text{Se}_2/\text{VSe}_2$ heterostructure. Physical Review B, 2022, 105, .	3.2	0