Chih-Kang Shih

List of Publications by Citations

135 papers	8,600 citations	46 h-index	91 g-index
145 ext. papers	9,605 ext. citations	9 avg, IF	5.84 L-index

#	Paper	IF	Citations
135	Plasmonic nanolaser using epitaxially grown silver film. *Science*, **2012**, 337, 450-3	33.3	571
134	Determination of band alignment in the single-layer MoS2/WSe2 heterojunction. *Nature Communications*, **2015**, 6, 7666	17.4	421
133	Scanning probe-based frequency-dependent microrheology of polymer gels and biological cells. *Physical Review Letters*, **2000**, 85, 880-3	7.4	401
132	Quantitative analysis of the viscoelastic properties of thin regions of fibroblasts using atomic force microscopy. *Biophysical Journal*, **2004**, 86, 1777-93	2.9	368
131	Direct imaging of band profile in single layer MoS2 on graphite: quasiparticle energy gap, metallic edge states, and edge band bending. *Nano Letters*, **2014**, 14, 2443-7	11.5	342
130	Electronic Growth of Metallic Overlayers on Semiconductor Substrates. *Physical Review Letters*, **1998**, 80, 5381-5384	7.4	336
129	Interlayer couplings, Moir patterns, and 2D electronic superlattices in MoS/WSe hetero-bilayers. *Science Advances*, **2017**, 3, e1601459	14.3	277
128	Observation of topological surface state quantum Hall effect in an intrinsic three-dimensional topological insulator. *Nature Physics*, **2014**, 10, 956-963	16.2	271
127	Resonance fluorescence from a coherently driven semiconductor quantum dot in a cavity. *Physical Review Letters*, **2007**, 99, 187402	7.4	251
126	Resonantly driven coherent oscillations in a solid-state quantum emitter. *Nature Physics*, **2009**, 5, 203-207	16.2	249
125	Superconductivity at the two-dimensional limit. *Science*, **2009**, 324, 1314-7	33.3	248
124	Interplay of Rabi oscillations and quantum interference in semiconductor quantum dots. *Physical Review Letters*, **2002**, 88, 087401	7.4	246
123	Nonuniform composition profile in In0.5Ga0.5As alloy quantum dots. *Physical Review Letters*, **2000**, 84, 334-7	7.4	244
122	Persistent superconductivity in ultrathin Pb films: a scanning tunneling spectroscopy study. *Physical Review Letters*, **2006**, 96, 027005	7.4	232
121	All-color plasmonic nanolasers with ultralow thresholds: autotuning mechanism for single-mode lasing. *Nano Letters*, **2014**, 14, 4381-8	11.5	168
120	Propagating surface plasmon induced photon emission from quantum dots. *Nano Letters*, **2009**, 9, 4168-71	11.5	158
119	Electronic structure of NiO: Correlation and band effects. *Physical Review B*, **1991**, 44, 3604-3626	3.3	153

118	Profiling the thermoelectric power of semiconductor junctions with nanometer resolution. *Science*, **2004**, 303, 816-8	33.3	143
117	Probing Critical Point Energies of Transition Metal Dichalcogenides: Surprising Indirect Gap of Single Layer WSe2. *Nano Letters*, **2015**, 15, 6494-500	11.5	137
116	Strain distributions and their influence on electronic structures of WSe-MoS laterally strained heterojunctions. *Nature Nanotechnology*, **2018**, 13, 152-158	28.7	135
115	Cell motility and local viscoelasticity of fibroblasts. *Biophysical Journal*, **2005**, 89, 4330-42	2.9	109
114	Intrinsic optical properties and enhanced plasmonic response of epitaxial silver. *Advanced Materials* , **2014**, 26, 6106-10	24	101
113	Visualizing band offsets and edge states in bilayer-monolayer transition metal dichalcogenides lateral heterojunction. *Nature Communications*, **2016**, 6, 10349	17.4	99
112	Bond-length relaxation in pseudobinary alloys. *Physical Review B*, **1985**, 31, 1139-1140	3.3	92
111	Surface structural and electronic properties of cleaved single crystals of Bi2.15Sr1.7CaCu2O8+ delta compounds: A scanning tunneling microscopy study. *Physical Review B*, **1989**, 40, 2682-2685	3.3	87
110	Separation of valley excitons in a MoS2 monolayer using a subwavelength asymmetric groove array. *Nature Photonics*, **2019**, 13, 180-184	33.9	86
109	Decoherence processes during optical manipulation of excitonic qubits in semiconductor quantum dots. *Physical Review B*, **2005**, 72,	3.3	82
108	Aspects of the correlation effects, antiferromagnetic order, and translational symmetry of the electronic structure of NiO and CoO. *Physical Review Letters*, **1990**, 64, 2442-2445	7.4	79
107	Determination of a natural valence-band offset: The case of HgTe-CdTe. *Physical Review Letters*, **1987**, 58, 2594-2597	7.4	77
106	Carrier relaxation and quantum decoherence of excited states in self-assembled quantum dots. *Physical Review B*, **2001**, 63,	3.3	67
105	Scanning tunneling microscopy and spectroscopy of Bi-Sr-Ca-Cu-O 2:2:1:2 high-temperature superconductors. *Physical Review B*, **1991**, 43, 7913-7922	3.3	64
104	Semiconductor plasmonic nanolasers: current status and perspectives. *Reports on Progress in Physics*, **2016**, 79, 086501	14.4	61
103	Electrical characterization of individual carbon nanotubes grown in nanoporous anodic alumina templates. *Applied Physics Letters*, **2004**, 84, 1177-1179	3.4	61
102	Contrasting Structural Reconstructions, Electronic Properties, and Magnetic Orderings along Different Edges of Zigzag Transition Metal Dichalcogenide Nanoribbons. *Nano Letters*, **2017**, 17, 1097-1101	11.5	60
101	Visualization of geometric influences on proximity effects in heterogeneous superconductor thin films. *Nature Physics*, **2012**, 8, 464-469	16.2	60

100	Thermal formation of Zn-dopant-vacancy defect complexes on InP(110) surfaces. *Physical Review B*, **1996**, 53, 4580-4590	3.3	56
99	Coherent control of a V-type three-level system in a single quantum dot. *Physical Review Letters*, **2005**, 95, 187404	7.4	55
98	Determination of anisotropic dipole moments in self-assembled quantum dots using Rabi oscillations. *Applied Physics Letters*, **2004**, 84, 981-983	3.4	55
97	Quantum size effects on the work function of metallic thin film nanostructures. *Proceedings of the National Academy of Sciences of the United States of America*, **2010**, 107, 12761-5	11.5	54
96	Fabrication of MoSe nanoribbons via an unusual morphological phase transition. *Nature Communications*, **2017**, 8, 15135	17.4	53
95	Bandgap renormalization and work function tuning in MoSe/hBN/Ru(0001) heterostructures. *Nature Communications*, **2016**, 7, 13843	17.4	51
94	Energy transfer within ultralow density twin InAs quantum dots grown by droplet epitaxy. *ACS Nano*, **2008**, 2, 2219-24	16.7	47
93	Epitaxial Growth of Atomically Smooth Aluminum on Silicon and Its Intrinsic Optical Properties. *ACS Nano*, **2016**, 10, 9852-9860	16.7	47
92	Strain relaxation in single crystal SrTiO3 grown on Si (001) by molecular beam epitaxy. *Journal of Applied Physics*, **2012**, 111, 064112	2.5	46
91	Time-resolved photoluminescence spectroscopy of individual Te impurity centers in ZnSe. *Physical Review B*, **2006**, 73,	3.3	46
90	Dimer-vacancy-dimer-vacancy interaction on the Si(001) surface: The nature of the 2 x n structure. *Physical Review B*, **1995**, 52, R8650-R8653	3.3	46
89	Direct mapping of electronic structure across Al0.3Ga0.7As/GaAs heterojunctions: Band offsets, asymmetrical transition widths, and multiple-valley band structures. *Physical Review Letters*, **1993**, 71, 1883-1886	7.4	46
88	Direct determination of exact charge states of surface point defects using scanning tunneling microscopy: As vacancies on GaAs (110). *Physical Review B*, **1996**, 53, 6935-6938	3.3	45
87	Mapping the 3D surface potential in Bi□Se□*Nature Communications*, **2013**, 4, 2277	17.4	43
86	Determination of 2D Pair Correlations and Pair Interaction Energies of In Atoms in Molecular Beam Epitaxially Grown InGaAs Alloys. *Physical Review Letters*, **1997**, 79, 4822-4825	7.4	43
85	Quantum growth of magnetic nanoplatelets of Co on Si with high blocking temperature. *Nano Letters*, **2005**, 5, 87-90	11.5	40
84	Double-tip scanning tunneling microscope for surface analysis. *Physical Review B*, **1995**, 51, 5502-5505	3.3	40
83	Spatial correlation-anticorrelation in strain-driven self-assembled InGaAs quantum dots. *Applied Physics Letters*, **2004**, 85, 1356-1358	3.4	39

82	Site-selective imaging in scanning tunneling microscopy of graphite: The nature of site asymmetry. *Physical Review B*, **1993**, 47, 13059-13062	3.3	38
81	Quantitative determination of the metastability of flat Ag overlayers on GaAs(110). *Physical Review Letters*, **2002**, 88, 016102	7.4	37
80	Structural characterization and temperature-dependent photoluminescence of linear CdTe/CdSe/CdTe heterostructure nanorods. *ChemPhysChem*, **2008**, 9, 1158-63	3.2	35
79	Tailoring Plasmonic Enhanced Upconversion in Single NaYF4:Yb(3+)/Er(3+) Nanocrystals. *Scientific Reports*, **2015**, 5, 10196	4.9	34
78	Epitaxial Aluminum-on-Sapphire Films as a Plasmonic Material Platform for Ultraviolet and Full Visible Spectral Regions. *ACS Photonics*, **2018**, 5, 2624-2630	6.3	34
77	Cross-sectional scanning tunneling microscopy study of GaAs/AlAs short period superlattices: The influence of growth interrupt on the interfacial structure. *Applied Physics Letters*, **1995**, 66, 478-480	3.4	34
76	Enhanced Photoluminescence of Monolayer WS2 on Ag Films and Nanowire–WS2–Film Composites. *ACS Photonics*, **2017**, 4, 1421-1430	6.3	32
75	Phonon renormalization in reconstructed MoS moiré superlattices. *Nature Materials*, **2021**, 20, 1100-1105	27	31
74	Ultrathin two-dimensional superconductivity with strong spin-orbit coupling. *Proceedings of the National Academy of Sciences of the United States of America*, **2016**, 113, 10513-7	11.5	31
73	Tailoring excitonic states of van der Waals bilayers through stacking configuration, band alignment, and valley spin. *Science Advances*, **2019**, 5, eaax7407	14.3	31
72	Direct spectroscopic evidence for the formation of one-dimensional wetting wires during the growth of InGaAs/GaAs quantum dot chains. *Nano Letters*, **2006**, 6, 1847-51	11.5	30
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70	Moiré potential impedes interlayer exciton diffusion in van der Waals heterostructures. *Science Advances*, **2020**, 6,	14.3	29
69	Engineering Point-Defect States in Monolayer WSe. *ACS Nano*, **2019**, 13, 1595-1602	16.7	28
68	Correlating electronic transport to atomic structures in self-assembled quantum wires. *Nano Letters*, **2012**, 12, 938-42	11.5	26
67	Polarization conversion in a silica microsphere. *Optics Express*, **2007**, 15, 7000-5	3.3	26
66	Alloy ordering in GaInP alloys: A cross-sectional scanning tunneling microscopy study. *Applied Physics Letters*, **1998**, 73, 1979-1981	3.4	26
65	Dielectric impact on exciton binding energy and quasiparticle bandgap in monolayer WS 2 and WSe 2. *2D Materials*, **2019**, 6, 025028	5.9	25

64	Single dot spectroscopy of site-controlled InAs quantum dots nucleated on GaAs nanopyramids. *Applied Physics Letters*, **2007**, 91, 133104	3.4	25
63	Photoluminescence properties of single CdS nanorods. *Journal of Applied Physics*, **2004**, 95, 1056-1063	2.5	24
62	Scanning tunneling microscopy of GaAs multiple pn junctions. *Applied Physics Letters*, **1992**, 61, 1104-1106	3.4	23
61	Low-Threshold Plasmonic Lasers on a Single-Crystalline Epitaxial Silver Platform at Telecom Wavelength. *ACS Photonics*, **2017**, 4, 1431-1439	6.3	22
60	Cascaded exciton energy transfer in a monolayer semiconductor lateral heterostructure assisted by surface plasmon polariton. *Nature Communications*, **2017**, 8, 35	17.4	22
59	Quantum dots at the nanometer scale: Interdot carrier shuffling and multiparticle states. *Physical Review B*, **1999**, 60, 11026-11029	3.3	22
58	Giant Enhancement of Defect-Bound Exciton Luminescence and Suppression of Band-Edge Luminescence in Monolayer WSe-Ag Plasmonic Hybrid Structures. *Nano Letters*, **2017**, 17, 4317-4322	11.5	21
57	VLS growth of Si nanocones using Ga and Al catalysts. *Journal of Crystal Growth*, **2008**, 310, 4407-4411	1.6	21
56	Whispering gallery mode microresonators as polarization converters. *Optics Letters*, **2007**, 32, 2224-6	3	21
55	Three-dimensional modeling of nanoscale Seebeck measurements by scanning thermoelectric microscopy. *Applied Physics Letters*, **2005**, 87, 053115	3.4	20
54	Factors influencing the interfacial roughness of InGaAs/GaAs heterostructures: A scanning tunneling microscopy study. *Applied Physics Letters*, **1999**, 75, 1703-1705	3.4	20
53	Tuning Band Gap and Work Function Modulations in Monolayer hBN/Cu(111) Heterostructures with Moiré Patterns. *ACS Nano*, **2018**, 12, 9355-9362	16.7	19
52	Cross-sectional nanophotoluminescence studies of Stark effects in self-assembled quantum dots. *Applied Physics Letters*, **2000**, 76, 700-702	3.4	19
51	Dislocations, Phason Defects, and Domain Walls in a One-Dimensional Quasiperiodic Superstructure of a Metallic Thin Film. *Physical Review Letters*, **1999**, 83, 3222-3225	7.4	19
50	Photophysics of Thermally-Assisted Photobleaching in "Giant" Quantum Dots Revealed in Single Nanocrystals. *ACS Nano*, **2018**, 12, 4206-4217	16.7	18
49	Compact low temperature scanning tunneling microscope with in-situ sample preparation capability. *Review of Scientific Instruments*, **2015**, 86, 093707	1.7	18
48	Universal quenching of the superconducting state of two-dimensional nanosize Pb-island structures. *Physical Review B*, **2011**, 84,	3.3	18
47	Tailoring Semiconductor Lateral Multijunctions for Giant Photoconductivity Enhancement. *Advanced Materials*, **2017**, 29, 1703680	24	17

46	Unveiling defect-mediated carrier dynamics in monolayer semiconductors by spatiotemporal microwave imaging. *Proceedings of the National Academy of Sciences of the United States of America*, **2020**, 117, 13908-13913	11.5	16
45	Vacancy migration, adatom motion, and atomic bistability on the GaAs(110) surface studied by scanning tunneling microscopy. *Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films*, **1993**, 11, 1644-1648	2.9	16
44	Temperature dependent compensation of Zn-dopant atoms by vacancies in III□V semiconductor surfaces. *Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films*, **1996**, 14, 1807-1811	2.9	15
43	New variable low-temperature scanning tunneling microscope for use in ultrahigh vacuum. *Review of Scientific Instruments*, **1995**, 66, 2499-2503	1.7	13
42	Epitaxial Growth of Two-Dimensional Insulator Monolayer Honeycomb BeO. *ACS Nano*, **2021**, 15, 2497-2505	13.7	13
41	Role of thermal processes in dewetting of epitaxial Ag(111) film on Si(111). *Surface Science*, **2014**, 630, 168-173	1.8	12
40	Site-controlled formation of InGaAs quantum nanostructures-Tailoring the dimensionality and the quantum confinement. *Nano Research*, **2013**, 6, 235-242	10	12
39	Epitaxial Growth of Optically Thick, Single Crystalline Silver Films for Plasmonics. *ACS Applied Materials & Interfaces*, **2019**, 11, 3189-3195	9.5	12
38	Anomalous phase relations of quantum size effects in ultrathin Pb films on Si(111). *Physical Review B*, **2013**, 87,	3.3	10
37	Cross-sectional scanning tunneling microscopy of doped and undoped AlGaAs/GaAs heterostructures. *Applied Physics Letters*, **1994**, 64, 493-495	3.4	10
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34	Contrast between surface plasmon polariton-mediated extraordinary optical transmission behavior in epitaxial and polycrystalline Ag films in the mid- and far-infrared regimes. *Nano Letters*, **2012**, 12, 6187-91	11.5	9
33	Microscopic investigation of Bi2-xSbxTe3-ySey systems: On the origin of a robust intrinsic topological insulator. *Journal of Physics and Chemistry of Solids*, **2019**, 128, 251-257	3.9	9
32	Observation of Coulomb repulsion between Cu intercalants in CuxBi2Se3. *Physical Review B*, **2014**, 89,	3.3	8
31	Adsorbate-induced restructuring of Pb mesas grown on vicinal Si(111) in the quantum regime. *Physical Review B*, **2009**, 80,	3.3	8
30	Terahertz Faraday and Kerr rotation spectroscopy of Bi1□Sbx films in high magnetic fields up to 30 tesla. *Physical Review B*, **2019**, 100,	3.3	8
29	Microscopic Real-Space Resistance Mapping Across CdTe Solar Cell Junctions by Scanning Spreading Resistance Microscopy. *IEEE Journal of Photovoltaics*, **2015**, 5, 395-400	3.7	7

28	Optical dielectric constants of single crystalline silver films in the long wavelength range. *Optical Materials Express*, **2020**, 10, 693	2.6	7
27	Geometric quenching of orbital pair breaking in a single crystalline superconducting nanomesh network. *Nature Communications*, **2018**, 9, 5431	17.4	7
26	Enhancement of Plasmonic Performance in Epitaxial Silver at Low Temperature. *Scientific Reports*, **2017**, 7, 8917	4.9	6
25	In situ/non-contact superfluid density measurement apparatus. *Review of Scientific Instruments*, **2018**, 89, 043901	1.7	6
24	Interrogating the superconductor Ca(PtAs)(FePtAs) Layer-by-layer. *Scientific Reports*, **2016**, 6, 35365	4.9	6
23	Epitaxial aluminum plasmonics covering full visible spectrum. *Nanophotonics*, **2020**, 10, 627-637	6.3	6
22	Monolayer 1T-NbSe as a 2D-correlated magnetic insulator. *Science Advances*, **2021**, 7, eabi6339	14.3	6
21	Visualizing quantum well state perturbations of metallic thin films near stacking fault defects. *Physical Review B*, **2010**, 81,	3.3	5
20	Application of scanning tunneling microscopy to determine the exact charge states of surface point defects. *Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena*, **1996**, 14, 948		5
19	Time-resolved ARPES Determination of a Quasi-Particle Band Gap and Hot Electron Dynamics in Monolayer MoS. *Nano Letters*, **2021**, 21, 7363-7370	11.5	5
18	Giant up-conversion efficiency of InGaAs quantum dots in a planar microcavity. *Scientific Reports*, **2014**, 4, 3953	4.9	4
17	Tuning of Two-Dimensional Plasmon-Exciton Coupling in Full Parameter Space: A Polaritonic Non-Hermitian System. *Nano Letters*, **2021**, 21, 2596-2602	11.5	4
16	Behavior of superconductivity in a Pb/Ag heterostructure. *Physical Review B*, **2019**, 100,	3.3	3
15	Pattern formation of nanoflowers during the vapor□quid□olid growth of silicon nanowires. *Physica B: Condensed Matter*, **2008**, 403, 3514-3518	2.8	2
14	PTCDA Molecular Monolayer on Pb Thin Films: An Unusual □Electron Kondo System and Its Interplay with a Quantum-Confined Superconductor. *Physical Review Letters*, **2021**, 127, 186805	7.4	2
13	Tuning the Proximity Effect through Interface Engineering in a Pb/Graphene/Pt Trilayer System. *ACS Nano*, **2016**, 10, 4520-4	16.7	2
12	Momentum-Resolved Electronic Structures of a Monolayer-MoS2/Multilayer-MoSe2 Heterostructure. *Journal of Physical Chemistry C*, **2021**, 125, 16591-16597	3.8	1
11	Atomic-scale tailoring of spin susceptibility via non-magnetic spin-orbit impurities. *Communications Physics*, **2018**, 1,	5.4	1

10	Influence of Nanosize Hole Defects and their Geometric Arrangements on the Superfluid Density in Atomically Thin Single Crystals of Indium Superconductor. *Physical Review Letters*, **2021**, 127, 127003	7.4	1
9	Influence of quantum well states on the formation of AuPb alloy in ultra-thin Pb films. *Surface Science*, **2015**, 632, 174-179	1.8	0
8	Moiré excitons at line defects in transition metal dichalcogenides heterobilayers. *Comptes Rendus Physique*,1-16	1.4	0
7	Quantum upside-down cake. *Nature*, **2018**, 555, 36-37	50.4	
6	Atomic scale control of catalytic process in oxidation of Pb thin films. *Surface Science*, **2012**, 606, 450-455	1.8	
5	Polarization-resolved resonant fluorescence of a single semiconductor quantum dot. *Applied Physics Letters*, **2012**, 101, 251118	3.4	
4	Growing atomically flat metal films on semiconductor substrates. *Series on Directions in Condensed Matter Physics*, **1999**, 438-449		
3	Nano-Photoluminescence Studies of Self-Assembled Quantum Dots. *Materials Research Society Symposia Proceedings*, **1999**, 583, 105		
2	Critical role of parallel momentum in quantum well state couplings in multi-stacked nanofilms: An angle resolved photoemission study. *AIP Advances*, **2020**, 10, 125211	1.5	
1	Quantum Effect in Metal Overlayers on Semiconductor Substrates. *Series on Directions in Condensed Matter Physics*, **1999**, 149-173		