Toh-Ming Lu

List of Publications by Year
in descending order

71 papers	2,239 citations	236612 25 h-index	223531 46 g-index
72 all docs	72 docs citations	72 times ranked	4360 citing authors

#	Article	IF	Citations
1	Aging of Transition Metal Dichalcogenide Monolayers. ACS Nano, 2016, 10, 2628-2635.	7.3	359
2	Transitionâ€Metal Substitution Doping in Synthetic Atomically Thin Semiconductors. Advanced Materials, 2016, 28, 9735-9743.	11.1	208
3	Photon Transport in One-Dimensional Incommensurately Epitaxial CsPbX₃ Arrays. Nano Letters, 2016, 16, 7974-7981.	4.5	124
4	A chiral switchable photovoltaic ferroelectric 1D perovskite. Science Advances, 2020, 6, eaay4213.	4.7	119
5	Î²-phase tungsten nanorod formation by oblique-angle sputter deposition. Applied Physics Letters, 2003, 83, 3096-3098.	1.5	116
6	Carrier lifetime enhancement in halide perovskite via remote epitaxy. Nature Communications, 2019, 10, 4145.	5.8	93
7	Low temperature melting of copper nanorod arrays. Journal of Applied Physics, 2006, 99, 064304.	1.1	81
8	Stress reduction in tungsten films using nanostructured compliant layers. Journal of Applied Physics, 2004, 96, 5740-5746.	1.1	63
9	Enhanced step coverage by oblique angle physical vapor deposition. Journal of Applied Physics, 2005, 97, 124504.	1.1	57
10	Traditional Semiconductors in the Two-Dimensional Limit. Physical Review Letters, 2018, 120, 086101.	2.9	52
11	An Environmentally Stable and Leadâ€Free Chalcogenide Perovskite. Advanced Functional Materials, 2020, 30, 2001387.	7.8	52
12	A Method Toward Fabricating Semiconducting 3R-NbS₂ Ultrathin Films. Journal of Physical Chemistry C, 2015, 119, 19763-19771.	1.5	50
13	Utilizing van der Waals Slippery Interfaces to Enhance the Electrochemical Stability of Silicon Film Anodes in Lithium-Ion Batteries. ACS Applied Materials & Interfaces, 2018, 10, 13442-13451.	4.0	48
14	High-Crystallinity Epitaxial Sb₂Se₃ Thin Films on Mica for Flexible Near-Infrared Photodetectors. ACS Applied Materials & Interfaces, 2020, 12, 35222-35231.	4.0	47
15	Stress reduction in sputter deposited films using nanostructured compliant layers by high working-gas pressures. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2005, 23, 986-990.	0.9	43
16	Water electrolysis activated by Ru nanorod array electrodes. Applied Physics Letters, 2006, 88, 263106.	1.5	42
17	A two-step dry process for Cs₂SnI₆ perovskite thin film. Materials Research Letters, 2017, 5, 540-546.	4.1	40
18	van der Waals Epitaxy of Antimony Islands, Sheets, and Thin Films on Single-Crystalline Graphene. ACS Nano, 2018, 12, 6100-6108.	7.3	38

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19	Theoretical and Experimental Insight into the Mechanism for Spontaneous Vertical Growth of ReS 2 Nanosheets. Advanced Functional Materials, 2018, 28, 1801286.	7.8	35
20	Room-temperature electrically switchable spinâ€“valley coupling in a van der Waals ferroelectric halide perovskite with persistent spin helix. Nature Photonics, 2022, 16, 529-537.	15.6	35
21	A Reconfigurable Remotely Epitaxial VO₂ Electrical Heterostructure. Nano Letters, 2020, 20, 33-42.	4.5	33
22	Evidence of enhanced electron-phonon coupling in ultrathin epitaxial copper films. Applied Physics Letters, 2013, 103, .	1.5	31
23	Van Der Waals Hybrid Perovskite of High Optical Quality by Chemical Vapor Deposition. Advanced Optical Materials, 2017, 5, 1700373.	3.6	27
24	Revealing the Crystalline Integrity of Wafer-Scale Graphene on SiO₂/Si: An Azimuthal RHEED Approach. ACS Applied Materials & Interfaces, 2017, 9, 23081-23091.	4.0	27
25	Monolayer MoS₂ on sapphire: an azimuthal reflection high-energy electron diffraction perspective. 2D Materials, 2021, 8, 025003.	2.0	26
26	CdTe/ZnTe/GaAs Heterostructures for Single-Crystal CdTe Solar Cells. Journal of Electronic Materials, 2014, 43, 2895-2900.	1.0	25
27	van der Waals epitaxy of CdS thin films on single-crystalline graphene. Applied Physics Letters, 2017, 110, .	1.5	24
28	Epitaxial CdTe Thin Films on Mica by Vapor Transport Deposition for Flexible Solar Cells. ACS Applied Energy Materials, 2020, 3, 4589-4599.	2.5	24
29	Tera Tool [terahertz time-domain spectroscopy]. IEEE Circuits and Devices: the Magazine of Electronic and Photonic Systems, 2002, 18, 23-28.	0.8	22
30	Unique structure/properties of chemical vapor deposited parylene E. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2002, 20, 1445-1449.	0.9	20
31	Kinetics of Ta ions penetration into porous low-k dielectrics under bias-temperature stress. Applied Physics Letters, 2010, 96, 222901.	1.5	20
32	Dielectric constant measurement of thin films using goniometric terahertz time-domain spectroscopy. IEEE Journal of Selected Topics in Quantum Electronics, 2001, 7, 624-629.	1.9	18
33	A review on low dimensional metal halides: Vapor phase epitaxy and physical properties. Journal of Materials Research, 2017, 32, 3992-4024.	1.2	18
34	Effects of three-dimensional Ehrlich-Schwoebel barrier on texture selection during Cu nanorod growth. Applied Physics Letters, 2007, 91, 121914.	1.5	16
35	Large Metallic Vanadium Disulfide Ultrathin Flakes for Spintronic Circuits and Quantum Computing Devices. ACS Applied Nano Materials, 2019, 2, 3684-3694.	2.4	14
36	Single-Crystal CdTe Homojunction Structures for Solar Cell Applications. Journal of Electronic Materials, 2015, 44, 3118-3123.	1.0	12

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37	Metalorganic vapor phase epitaxy of large size CdTe grains on mica through chemical and van der Waals interactions. Physical Review Materials, 2018, 2, .	0.9	12
38	van der Waals epitaxial ZnTe thin film on single-crystalline graphene. Journal of Applied Physics, 2018, 123, .	1.1	11
39	Nonlinear Electronâ€Lattice Interactions in a Wurtzite Semiconductor Enabled via Strongly Correlated Oxide. Advanced Materials, 2016, 28, 8975-8982.	11.1	10
40	Enhanced photoemission from nanostructured surface topologies. Applied Physics Letters, 2006, 89, 193116.	1.5	9
41	Quasi van der Waals epitaxy of copper thin film on single-crystal graphene monolayer buffer. Journal Physics D: Applied Physics, 2018, 51, 095301.	1.3	9
42	Anisotropic band structure of TiS3 nanoribbon revealed by polarized photocurrent spectroscopy. Applied Physics Letters, 2020, 117, .	1.5	8
43	Tuning phase transition kinetics via van der Waals epitaxy of single crystalline VO2 on hexagonal-BN. Journal of Crystal Growth, 2020, 543, 125699.	0.7	8
44	Introduction of molecular scale porosity into semicrystalline polymer thin films using supercritical carbon dioxide. Applied Physics Letters, 2009, 94, 121908.	1.5	7
45	Vertically aligned biaxially textured molybdenum thin films. Journal of Applied Physics, 2011, 110, .	1.1	7
46	Surface area and porosity in obliquely grown photocatalytic titanium dioxide for air purification. Journal of Applied Physics, 2014, 115, .	1.1	7
47	Modular Approach for Metalâ€“Semiconductor Heterostructures with Very Large Interface Lattice Misfit: A First-Principles Perspective. Crystal Growth and Design, 2016, 16, 2328-2334.	1.4	7
48	Decoupling interface effect on the phase stability of CdS thin films by van der Waals heteroepitaxy. Applied Physics Letters, 2017, 110, 041602.	1.5	7
49	Probing the interface strain in a 3D-2D van der Waals heterostructure. Applied Physics Letters, 2017, 111, .	1.5	7
50	Single-Crystal Graphene-Directed van der Waals Epitaxial Resistive Switching. ACS Applied Materials & Interfaces, 2018, 10, 6730-6736.	4.0	7
51	Coherent Phonon Transport Measurement and Controlled Acoustic Excitations Using Tunable Acoustic Phonon Source in GHz-sub THz Range with Variable Bandwidth. Scientific Reports, 2018, 8, 7054.	1.6	7
52	Large scale epitaxial graphite grown on twin free nickel(111)/spinel substrate. CrystEngComm, 2020, 22, 119-129.	1.3	7
53	Residual Stress Reduction in Sputter Deposited Thin Films by Density Modulation. Materials Research Society Symposia Proceedings, 2009, 1224, 1.	0.1	6
54	Growth of CdTe Films on Amorphous Substrates Using CaF2 Nanorods as a Buffer Layer. Journal of Electronic Materials, 2009, 38, 1600-1604.	1.0	6

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55	Orientation-Controlled Large-Area Epitaxial PbI2 Thin Films with Tunable Optical Properties. ACS Applied Materials & Interfaces, 2021, 13, 32450-32460.	4.0	6
56	Domain boundaries in incommensurate epitaxial layers on weakly interacting substrates. Journal of Applied Physics, 2021, 130, 065301.	1.1	5
57	Coherent acoustic vibrations in silicon submicron spiral arrays. Journal of Applied Physics, 2009, 106, 033517.	1.1	4
58	Unit-Cell-Thick Oxide Synthesis by Film-Based Scavenging. Journal of Physical Chemistry C, 2020, 124, 8394-8400.	1.5	4
59	Enhanced van der Waals epitaxy via electron transfer enabled interfacial dative bond formation. Physical Review Materials, 2017, 1, .	0.9	4
60	Growth front smoothing effects in extremely high pressure vapor deposition. Scientific Reports, 2020, 10, 12355.	1.6	2
61	Reflection High-energy Electron Diffraction Study of Nanostructures: From Diffraction Patterns to Surface Pole Figure. Materials Research Society Symposia Proceedings, 2009, 1184, 62.	0.1	1
62	Method to Determine the Root Cause of Low- $kappa$ SiCOH Dielectric Failure Distributions. IEEE Electron Device Letters, 2017, 38, 119-122.	2.2	1
63	The Development of the Charge Transport Model To Predict Dielectric Failure. , 2018, , .		1
64	Contact potential induced carrier localization in nanometer-thin Cu/Ru, Cu/Co, and Cu/Mo superlattices. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2020, 38, .	0.9	1
65	Heteroepitaxy of High-Mobility Germanium on Sapphire (0001) with Magnetron Sputtering. ACS Applied Electronic Materials, 2020, 2, 1635-1644.	2.0	1
66	Dielectric, Conducting, and Photonic Polymers for Devices in Multichip Packaging. Materials Research Society Symposia Proceedings, 1989, 154, 387.	0.1	0
67	Measurement of the dielectric constant of thin films using goniometric time-domain spectroscopy. AIP Conference Proceedings, 2001, , .	0.3	0
68	Fabrication and Imaging of Protein Crossover Structures. Materials Research Society Symposia Proceedings, 2002, 735, 361.	0.1	0
69	Lithography for sub>30 nm design rules: materials challenges. , 0, , .		0
70	Novel Ultrathin Mg Nanoblades for Hydrogen Storage. Materials Research Society Symposia Proceedings, 2009, 1216, 1.	0.1	0
71	RHEED Pole Figure Measurements of Biaxial Thin Film Growth Front Evolution. Materials Research Society Symposia Proceedings, 2011, 1308, 40201.	0.1	0