Jialiang Huang

List of Publications by Year
in descending order

82 papers	3,977 citations	172457 29 h-index	123424 61 g-index
84 all docs	84 docs citations	84 times ranked	2742 citing authors

#	Article	IF	Citations
1	9.6%-Efficient all-inorganic Sb₂(S,Se)₃ solar cells with a MnS hole-transporting layer. Journal of Materials Chemistry A, 2022, 10, 2835-2841.	10.3	19
2	Lowâ€Cost Fabrication of Sb₂S₃ Solar Cells: Direct Evaporation from Raw Stibnite Ore. Solar Rrl, 2022, 6, .	5.8	11
3	Formation mechanisms of voids and pin-holes in CuSbS₂ thin film synthesized by sulfurizing a co-sputtered Cuâ€“Sb precursor. Journal of Materials Chemistry A, 2022, 10, 8015-8024.	10.3	3
4	Largeâ€Grain Spanning Monolayer Cu₂ZnSnSe₄Thinâ€Film Solar Cells Grown from Metal Precursor. Small, 2022, 18, e2105044.	10.0	25
5	Engineering a Kesteriteâ€Based Photocathode for Photoelectrochemical Ammonia Synthesis from NO<i>_x</i> Reduction. Advanced Materials, 2022, 34, .	21.0	17
6	Defectâ€Resolved Effective Majority Carrier Mobility in Highly Anisotropic Antimony Chalcogenide Thinâ€Film Solar Cells. Solar Rrl, 2021, 5, 2000693.	5.8	22
7	High Efficiency Cu₂ZnSn(S,Se)₄ Solar Cells with Shallow Li_{Zn} Acceptor Defects Enabled by Solutionâ€Based Li Postâ€Deposition Treatment. Advanced Energy Materials, 2021, 11, 2003783.	19.5	57
8	Accelerating Electronâ€Transfer and Tuning Product Selectivity Through Surficial Vacancy Engineering on CZTS/CdS for Photoelectrochemical CO₂ Reduction. Small, 2021, 17, e2100496.	10.0	40
9	Systematic Efficiency Improvement for Cu₂ZnSn(S,Se)₄ Solar Cells By Double Cation Incorporation with Cd and Ge. Advanced Functional Materials, 2021, 31, 2104528.	14.9	32
10	Interface Recombination of Cu₂ZnSnS₄ Solar Cells Leveraged by High Carrier Density and Interface Defects. Solar Rrl, 2021, 5, 2100418.	5.8	30
11	Improving Performance of Bifacialâ€Grid IIIâ€“V Solar Cells Bonded on Glass by Selective Contact Annealing. Solar Rrl, 2021, 5, 2100438.	5.8	2
12	High-efficiency ultra-thin Cu2ZnSnS4 solar cells by double-pressure sputtering with spark plasma sintered quaternary target. Journal of Energy Chemistry, 2021, 61, 186-194.	12.9	20
13	Analysis of manufacturing cost and market niches for Cu₂ZnSnS₄ (CZTS) solar cells. Sustainable Energy and Fuels, 2021, 5, 1044-1058.	4.9	26
14	Hydrothermal deposition of antimony selenosulfide thin films enables solar cells with 10% efficiency. Nature Energy, 2020, 5, 587-595.	39.5	338
15	Defect Control for 12.5% Efficiency Cu₂ZnSnSe₄ Kesterite Thinâ€Film Solar Cells by Engineering of Local Chemical Environment. Advanced Materials, 2020, 32, e2005268.	21.0	133
16	Deepâ€Level Defect in Quasiâ€Vertically Oriented CuSbS₂ Thin Film. Solar Rrl, 2020, 4, 2000319.	5.8	1
17	11.6% Efficient Pure Sulfide Cu(In,Ga)S₂ Solar Cell through a Cu-Deficient and KCN-Free Process. ACS Applied Energy Materials, 2020, 3, 11974-11980.	5.1	8
18	Revealing Nanoscale Domains in Cu₂ZnSnS₄ Thin Films by Catalyzed Chemical Etching. Physica Status Solidi - Rapid Research Letters, 2020, 14, 2000283.	2.4	2

#	Article	IF	Citations
19	Device Postannealing Enabling over 12% Efficient Solutionâ€Processed Cu₂ZnSnS₄ Solar Cells with Cd²⁺ Substitution. Advanced Materials, 2020, 32, e2000121.	21.0	201
20	Quasi-Vertically-Orientated Antimony Sulfide Inorganic Thin-Film Solar Cells Achieved by Vapor Transport Deposition. ACS Applied Materials & Interfaces, 2020, 12, 22825-22834.	8.0	50
21	High openâ€circuit voltage CuSbS₂ solar cells achieved through the formation of epitaxial growth of CdS/CuSbS₂ heteroâ€interface by postâ€annealing treatment. Progress in Photovoltaics: Research and Applications, 2019, 27, 37-43.	8.1	26
22	Cd-Free Cu₂ZnSnS₄solar cell with an efficiency greater than 10% enabled by Al₂O₃passivation layers. Energy and Environmental Science, 2019, 12, 2751-2764.	30.8	112
23	Improvement of Csâ€(FAPbI₃)_{0.85}(MAPbBr₃)_{0.15} Quality Via DMSOâ€Moleculeâ€Control to Increase the Efficiency and Boost the Longâ€Term Stability of 1â€‰cm² Sized Planar Perovskite Solar Cells. Solar Rrl, 2019, 3, 1800338.	5.8	21
24	Quasiepitaxy Strategy for Efficient Fullâ€Inorganic Sb₂S₃ Solar Cells. Advanced Functional Materials, 2019, 29, 1901720.	14.9	136
25	Solution-processed ultrathin SnO2 passivation of Absorber/Buffer Heterointerface and Grain Boundaries for High Efficiency Kesterite Cu2ZnSnS4 Solar Cells. , 2019, , .		0
26	High-efficient Cd-free CZTS solar cells achieved by nanoscale atomic layer deposited aluminium oxide. , 2019, , .		0
27	Beyond 10% efficiency Cu₂ZnSnS₄ solar cells enabled by modifying the heterojunction interface chemistry. Journal of Materials Chemistry A, 2019, 7, 27289-27296.	10.3	46
28	Fabrication of Sb2S3 thin films by sputtering and post-annealing for solar cells. Ceramics International, 2019, 45, 3044-3051.	4.8	64
29	Exploring Inorganic Binary Alkaline Halide to Passivate Defects in Lowâ€Temperatureâ€Processed Planarâ€Structure Hybrid Perovskite Solar Cells. Advanced Energy Materials, 2018, 8, 1800138.	19.5	186
30	Rear texturing for light-trapping in laser-crystallised silicon thin-film solar cells on glass. Solar Energy, 2018, 166, 213-219.	6.1	6
31	Fabrication of low-defect Ge-rich SiGe-on-insulator by continuous-wave diode laser-induced recrystallization. Journal of Alloys and Compounds, 2018, 744, 679-682.	5.5	3
32	Efficiency Enhancement of Kesterite Cu₂ZnSnS₄ Solar Cells via Solution-Processed Ultrathin Tin Oxide Intermediate Layer at Absorber/Buffer Interface. ACS Applied Energy Materials, 2018, 1, 154-160.	5.1	53
33	The effect of thermal evaporated MoO3 intermediate layer as primary back contact for kesterite Cu2ZnSnS4 solar cells. Thin Solid Films, 2018, 648, 39-45.	1.8	34
34	Reduction of Threading Dislocation Density in Sputtered Ge/Si(100) Epitaxial Films by Continuous-Wave Diode Laser-Induced Recrystallization. ACS Applied Energy Materials, 2018, 1, 1893-1897.	5.1	3
35	Minority lifetime and efficiency improvement for CZTS solar cells via Cd ion soaking and post treatment. Journal of Alloys and Compounds, 2018, 750, 328-332.	5.5	31
36	Flexible kesterite Cu2ZnSnS4 solar cells with sodium-doped molybdenum back contacts on stainless steel substrates. Solar Energy Materials and Solar Cells, 2018, 182, 14-20.	6.2	49

#	Article	IF	Citations
37	Boosting the kesterite Cu2ZnSnS4 solar cells performance by diode laser annealing. Solar Energy Materials and Solar Cells, 2018, 175, 71-76.	6.2	27
38	Understanding the effect of Cadmium alloying in high-efficiency sulphide kesterite Cu2ZnxCd1-xSnS4 solar cell by PDS and HRSTEM. , 2018, , .		3
39	Efficiency Improvement of High Band Gap Cu2ZnSnS4 Solar Cell Achieved by Silver Incorporation. , 2018, , .		3
40	Boosting the efficiency of kesterite Cu2ZnSnS4 solar cells by optimizing the heterojunction interface quality. , 2018, , .		0
41	Enhanced Heterojunction Interface Quality To Achieve 9.3% Efficient Cd-Free Cu₂ZnSnS₄ Solar Cells Using Atomic Layer Deposition ZnSnO Buffer Layer. Chemistry of Materials, 2018, 30, 7860-7871.	6.7	66
42	Self-assembled Nanometer-Scale ZnS Structure at the CZTS/ZnCdS Heterointerface for High-Efficiency Wide Band Gap Cu₂ZnSnS₄ Solar Cells. Chemistry of Materials, 2018, 30, 4008-4016.	6.7	37
43	The Role of Hydrogen from ALDâ€Al₂O₃ in Kesterite Cu₂ZnSnS₄ Solar Cells: Grain Surface Passivation. Advanced Energy Materials, 2018, 8, 1701940.	19.5	68
44	Cu2ZnSnS4 solar cells with over 10% power conversion efficiency enabled by heterojunction heat treatment. Nature Energy, 2018, 3, 764-772.	39.5	623
45	Study of sputtered Cu2ZnSnS4 thin films on Si. Applied Surface Science, 2018, 459, 700-706.	6.1	26
46	Spatial Grain Growth and Composition Evolution during Sulfurizing Metastable Wurtzite Cu₂ZnSnS₄ Nanocrystal-Based Coatings. Chemistry of Materials, 2017, 29, 2110-2121.	6.7	11
47	Enhanced light-trapping in laser-crystallised silicon thin-film solar cells on glass by optimised back surface reflectors. Solar Energy, 2017, 150, 477-484.	6.1	16
48	Diode laser annealing of epitaxy Ge on sapphire (0 0 0 1) grown by magnetron sputtering. Materials Letters, 2017, 208, 35-38.	2.6	4
49	Diode laser annealing on sputtered epitaxial Cu₂ZnSnS₄ thin films. Physica Status Solidi - Rapid Research Letters, 2017, 11, 1700033.	2.4	4
50	Beyond 11% Efficient Sulfide Kesterite Cu₂Zn_{<i>x</i>}Cd_{1â€“<i>x</i>}SnS₄Solar Cell: Effects of Cadmium Alloying. ACS Energy Letters, 2017, 2, 930-936.	17.4	249
51	Properties of laser-crystallised silicon thin-film solar cells on textured glass. Journal of Materials Science: Materials in Electronics, 2017, 28, 10391-10399.	2.2	2
52	Beyond 8% ultrathin kesterite Cu2ZnSnS4 solar cells by interface reaction route controlling and self-organized nanopattern at the back contact. NPG Asia Materials, 2017, 9, e401-e401.	7.9	118
53	Sentaurus modelling of 6.9% Cu2ZnSnS4 device based on comprehensive electrical & optical characterization. Solar Energy Materials and Solar Cells, 2017, 160, 372-381.	6.2	25
54	Boost Voc of pure sulfide kesterite solar cell via a double CZTS layer stacks. Solar Energy Materials and Solar Cells, 2017, 160, 7-11.	6.2	65

#	Article	IF	Citations
55	Towards 10% State-of-the-Art Pure Sulfide Cu2ZnSnS4 Solar Cell by modifying the Interface Chemistry. , 2017, , .		0
56	Nanoscale Microstructure and Chemistry of Cu₂ZnSnS₄/CdS Interface in Kesterite Cu₂ZnSnS₄ Solar Cells. Advanced Energy Materials, 2016, 6, 1600706.	19.5	113
57	Over 9% Efficient Kesterite Cu₂ZnSnS₄ Solar Cell Fabricated by Using Zn_{1â€“}<i>_x</i>Cd<i>_x</i>S Buffer Layer. Advanced Energy Materials, 2016, 6, 1600046.	19.5	322
58	Large Voc improvement and 9.2% efficient pure sulfide Cu<inf>2</inf>ZnSnS<inf>4</inf> solar cells by heterojunction interface engineering. , 2016, , .		3
59	Dislocation density reduction of virtual Ge substrates by CW diode laser treatment. , 2016, , .		0
60	Diode laser annealing on Ge/Si (100) epitaxial films grown by magnetron sputtering. Thin Solid Films, 2016, 609, 49-52.	1.8	13
61	Understanding the Key Factors of Enhancing Phase and Compositional Controllability for 6% Efficient Pure-Sulfide Cu₂ZnSnS₄ Solar Cells Prepared from Quaternary Wurtzite Nanocrystals. Chemistry of Materials, 2016, 28, 3649-3658.	6.7	32
62	Influence of sodium incorporation on kesterite Cu2ZnSnS4 solar cells fabricated on stainless steel substrates. Solar Energy Materials and Solar Cells, 2016, 157, 565-571.	6.2	48
63	Enhanced Absorption in Laser-Crystallized Silicon Thin Films on Textured Glass. IEEE Journal of Photovoltaics, 2016, 6, 852-859.	2.5	16
64	Light Absorption Enhancement in Laser-Crystallized Silicon Thin Films on Textured Glass. IEEE Journal of Photovoltaics, 2016, 6, 159-165.	2.5	14
65	Effects of front and rear texturing on absorption enhancement in laser-crystallized silicon thin-films on glass. Japanese Journal of Applied Physics, 2015, 54, 08KB04.	1.5	16
66	Defect elimination in solid-phase crystallised Si thin films by line-focus diode laser annealing. Thin Solid Films, 2015, 576, 42-49.	1.8	5
67	Exploring the application of metastable wurtzite nanocrystals in pure-sulfide Cu₂ZnSnS₄ solar cells by forming nearly micron-sized large grains. Journal of Materials Chemistry A, 2015, 3, 23185-23193.	10.3	32
68	Lifetime analysis of laser crystallized silicon films on glass. Journal of Applied Physics, 2015, 118, .	2.5	11
69	Micro-structural defects in polycrystalline silicon thin-film solar cells on glass by solid-phase crystallisation and laser-induced liquid-phase crystallisation. Solar Energy Materials and Solar Cells, 2015, 132, 282-288.	6.2	20
70	Vapour-Phase and Solid-Phase Epitaxy of Silicon on Solid-Phase Crystallised Seed Layers for Solar Cells Application. International Journal of Photoenergy, 2014, 2014, 1-9.	2.5	6
71	Fabrication of an ant-nest nanostructure in polycrystalline silicon thin films for solar cells. Scripta Materialia, 2014, 92, 27-30.	5.2	1
72	Diode laser crystallization processes of Si thin-film solar cells on glass. EPJ Photovoltaics, 2014, 5, 55204.	1.6	7

#	Article	IF	Citations
73	Material characteristics of crystalline Si thin-film solar cells on glass fabricated by diode laser crystallization. , 2013, , .		0
74	Thinâ€film polycrystalline silicon solar cells formed by diode laser crystallisation. Progress in Photovoltaics: Research and Applications, 2013, 21, 1377-1383.	8.1	67
75	Large Grained, Low Defect Density Polycrystalline Silicon on Glass Substrates by Large-area Diode Laser Crystallisation. Materials Research Society Symposia Proceedings, 2012, 1426, 251-256.	0.1	18
76	The roles of shallow and deep levels in the recombination behavior of polycrystalline silicon on glass solar cells. Progress in Photovoltaics: Research and Applications, 2012, 20, 915-922.	8.1	18
77	Structural dependence of electrical properties of Ge films prepared by RF magnetron sputtering. Applied Physics A: Materials Science and Processing, 2011, 102, 689-694.	2.3	7
78	Formation of heavily boron-doped hydrogenated polycrystalline germanium thin films by co-sputtering for developing p+ emitters of bottom cells. Solar Energy Materials and Solar Cells, 2011, 95, 981-985.	6.2	43
79	Heavily Boron-Doped Hydrogenated Polycrystalline Ge Thin Films Prepared by Cosputtering. Electrochemical and Solid-State Letters, 2010, 13, H354.	2.2	0
80	V<inf>oc</inf>-limiting recombination mechanisms in thin film silicon on glass solar cells. , 2010, , .		0
81	Defect Control for 12.5% Efficiency Cu ₂ZnSnSe ₄ Kesterite Thin-Film Solar Cells by Engineering of Local Chemical Environment. SSRN Electronic Journal, 0, , .	0.4	1
82	Defect Engineering for Efficient Cu ₂ ZnSnS ₄ Solar Cells via Moistureâ€Assisted Postâ€Deposition Annealing. Advanced Optical Materials, 0, , 2200607.	7.3	7