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	Cu2ZnSnS4 solar cells with over 10% power conversion efficiency enabled by heterojunction heat treatment. Nature Energy, 2018, 3, 764-772.	39.5	623
2	Hydrothermal deposition of antimony selenosulfide thin films enables solar cells with 10% efficiency. Nature Energy, 2020, 5, 587-595.	39.5	338
3	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
4	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
5	Device Postannealing Enabling over 12% Efficient Solutionâ€Processed Cu₂ZnSnS₄ Solar Cells with Cd²⁺ Substitution. Advanced Materials, 2020, 32, e2000121.	21.0	201
6	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
7	Quasiepitaxy Strategy for Efficient Fullâ€Inorganic Sb₂S₃ Solar Cells. Advanced Functional Materials, 2019, 29, 1901720.	14.9	136
8	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
9	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
10	Nanoscale Microstructure and Chemistry of Cu₂ZnSnS₄/CdS Interface in Kesterite Cu₂ZnSnS₄ Solar Cells. Advanced Energy Materials, 2016, 6, 1600706.	19.5	113
11	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
12	The Role of Hydrogen from ALDâ€Al₂O₃ in Kesterite Cu₂ZnSnS₄ Solar Cells: Grain Surface Passivation. Advanced Energy Materials, 2018, 8, 1701940.	19.5	68
13	Thinâ€film polycrystalline silicon solar cells formed by diode laser crystallisation. Progress in Photovoltaics: Research and Applications, 2013, 21, 1377-1383.	8.1	67
14	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
15	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
16	Fabrication of Sb2S3 thin films by sputtering and post-annealing for solar cells. Ceramics International, 2019, 45, 3044-3051.	4.8	64
17	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
18	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

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19	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
20	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
21	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
22	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
23	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
24	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
25	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
26	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
27	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
28	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
29	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
30	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
31	Interface Recombination of Cu₂ZnSnS₄ Solar Cells Leveraged by High Carrier Density and Interface Defects. Solar Rrl, 2021, 5, 2100418.	5.8	30
32	Boosting the kesterite Cu2ZnSnS4 solar cells performance by diode laser annealing. Solar Energy Materials and Solar Cells, 2018, 175, 71-76.	6.2	27
33	Study of sputtered Cu2ZnSnS4 thin films on Si. Applied Surface Science, 2018, 459, 700-706.	6.1	26
34	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
35	Analysis of manufacturing cost and market niches for Cu₂ZnSnS₄ (CZTS) solar cells. Sustainable Energy and Fuels, 2021, 5, 1044-1058.	4.9	26
36	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

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37	Largeâ€Grain Spanning Monolayer Cu₂ZnSnSe₄Thinâ€Film Solar Cells Grown from Metal Precursor. Small, 2022, 18, e2105044.	10.0	25
38	Defectâ€Resolved Effective Majority Carrier Mobility in Highly Anisotropic Antimony Chalcogenide Thinâ€Film Solar Cells. Solar Rrl, 2021, 5, 2000693.	5.8	22
39	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
40	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
41	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
42	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
43	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
44	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
45	Engineering a Kesteriteâ€Based Photocathode for Photoelectrochemical Ammonia Synthesis from NO<i>_x</i> Reduction. Advanced Materials, 2022, 34, .	21.0	17
46	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
47	Enhanced Absorption in Laser-Crystallized Silicon Thin Films on Textured Glass. IEEE Journal of Photovoltaics, 2016, 6, 852-859.	2.5	16
48	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
49	Light Absorption Enhancement in Laser-Crystallized Silicon Thin Films on Textured Glass. IEEE Journal of Photovoltaics, 2016, 6, 159-165.	2.5	14
50	Diode laser annealing on Ge/Si (100) epitaxial films grown by magnetron sputtering. Thin Solid Films, 2016, 609, 49-52.	1.8	13
51	Lifetime analysis of laser crystallized silicon films on glass. Journal of Applied Physics, 2015, 118, .	2.5	11
52	Spatial Grain Growth and Composition Evolution during Sulfurizing Metastable Wurtzite Cu₂ZnSnS₄ Nanocrystal-Based Coatings. Chemistry of Materials, 2017, 29, 2110-2121.	6.7	11
53	Lowâ€Cost Fabrication of Sb₂S₃ Solar Cells: Direct Evaporation from Raw Stibnite Ore. Solar Rrl, 2022, 6, .	5.8	11
54	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

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55	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
56	Diode laser crystallization processes of Si thin-film solar cells on glass. EPJ Photovoltaics, 2014, 5, 55204.	1.6	7
57	Defect Engineering for Efficient Cu ₂ ZnSnS ₄ Solar Cells via Moistureâ€Assisted Postâ€Deposition Annealing. Advanced Optical Materials, 0, , 2200607.	7.3	7
58	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
59	Rear texturing for light-trapping in laser-crystallised silicon thin-film solar cells on glass. Solar Energy, 2018, 166, 213-219.	6.1	6
60	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
61	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
62	Diode laser annealing on sputtered epitaxial Cu₂ZnSnS₄ thin films. Physica Status Solidi - Rapid Research Letters, 2017, 11, 1700033.	2.4	4
63	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
64	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
65	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
66	Understanding the effect of Cadmium alloying in high-efficiency sulphide kesterite Cu2ZnxCd1-xSnS4 solar cell by PDS and HRSTEM. , 2018, , .		3
67	Efficiency Improvement of High Band Gap Cu2ZnSnS4 Solar Cell Achieved by Silver Incorporation. , 2018, , .		3
68	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
69	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
70	Revealing Nanoscale Domains in Cu₂ZnSnS₄ Thin Films by Catalyzed Chemical Etching. Physica Status Solidi - Rapid Research Letters, 2020, 14, 2000283.	2.4	2
71	Improving Performance of Bifacialâ€Grid IIIâ€“V Solar Cells Bonded on Glass by Selective Contact Annealing. Solar Rrl, 2021, 5, 2100438.	5.8	2
72	Fabrication of an ant-nest nanostructure in polycrystalline silicon thin films for solar cells. Scripta Materialia, 2014, 92, 27-30.	5.2	1

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73	Deepâ€Level Defect in Quasiâ€Vertically Oriented CuSbS₂ Thin Film. Solar Rrl, 2020, 4, 2000319.	5.8	1
74	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
75	Heavily Boron-Doped Hydrogenated Polycrystalline Ge Thin Films Prepared by Cosputtering. Electrochemical and Solid-State Letters, 2010, 13, H354.	2.2	0
76	V<inf>oc</inf>-limiting recombination mechanisms in thin film silicon on glass solar cells. , 2010, , .		0
77	Material characteristics of crystalline Si thin-film solar cells on glass fabricated by diode laser crystallization. , 2013, , .		0
78	Dislocation density reduction of virtual Ge substrates by CW diode laser treatment. , 2016, , .		0
79	Towards 10% State-of-the-Art Pure Sulfide Cu2ZnSnS4 Solar Cell by modifying the Interface Chemistry. , 2017, , .		0
80	Boosting the efficiency of kesterite Cu2ZnSnS4 solar cells by optimizing the heterojunction interface quality. , 2018, , .		0
81	Solution-processed ultrathin SnO2 passivation of Absorber/Buffer Heterointerface and Grain Boundaries for High Efficiency Kesterite Cu2ZnSnS4 Solar Cells. , 2019, , .		0
82	High-efficient Cd-free CZTS solar cells achieved by nanoscale atomic layer deposited aluminium oxide. , 2019, , .		0