Oki Gunawan

List of Publications by Year
in descending order

81 papers	14,429 citations	47006 47 h-index	85541 71 g-index
83 all docs	83 docs citations	83 times ranked	8031 citing authors

#	Article	IF	Citations
1	Device Characteristics of CZTSSe Thinâ€Film Solar Cells with 12.6% Efficiency. Advanced Energy Materials, 2014, 4, 1301465.	19.5	2,651
2	The path towards a high-performance solution-processed kesterite solar cell. Solar Energy Materials and Solar Cells, 2011, 95, 1421-1436.	6.2	1,118
3	Thin film solar cell with 8.4% power conversion efficiency using an earthâ€abundant Cu₂ZnSnS₄ absorber. Progress in Photovoltaics: Research and Applications, 2013, 21, 72-76.	8.1	1,054
4	Beyond 11% Efficiency: Characteristics of Stateâ€ofâ€theâ€Art Cu₂ZnSn(S,Se)₄ Solar Cells. Advanced Energy Materials, 2013, 3, 34-38.	19.5	922
5	Device characteristics of a 10.1% hydrazineâ€processed Cu₂ZnSn(Se,S)₄ solar cell. Progress in Photovoltaics: Research and Applications, 2012, 20, 6-11.	8.1	720
6	Band tailing and efficiency limitation in kesterite solar cells. Applied Physics Letters, 2013, 103, .	3.3	576
7	A High Efficiency Electrodeposited Cu₂ZnSnS₄ Solar Cell. Advanced Energy Materials, 2012, 2, 253-259.	19.5	504
8	Cu₂ZnSnSe₄ Thinâ€Film Solar Cells by Thermal Coâ€evaporation with 11.6% Efficiency and Improved Minority Carrier Diffusion Length. Advanced Energy Materials, 2015, 5, 1401372.	19.5	408
9	High Efficiency Cu₂ZnSn(S,Se)₄ Solar Cells by Applying a Double In₂S₃/CdS Emitter. Advanced Materials, 2014, 26, 7427-7431.	21.0	400
10	Solutionâ€processed Cu(In,Ga)(S,Se)₂ absorber yielding a 15.2% efficient solar cell. Progress in Photovoltaics: Research and Applications, 2013, 21, 82-87.	8.1	343
11	Loss mechanisms in hydrazine-processed Cu2ZnSn(Se,S)4 solar cells. Applied Physics Letters, 2010, 97, .	3.3	341
12	Thin-Film Deposition and Characterization of a Sn-Deficient Perovskite Derivative Cs₂SnI₆. Chemistry of Materials, 2016, 28, 2315-2322.	6.7	329
13	Low band gap liquid-processed CZTSe solar cell with 10.1% efficiency. Energy and Environmental Science, 2012, 5, 7060.	30.8	303
14	Flexible CIGS, CdTe and a-Si:H based thin film solar cells: A review. Progress in Materials Science, 2020, 110, 100619.	32.8	270
15	Band alignment at the Cu2ZnSn(SxSe1âˆ’x)4/CdS interface. Applied Physics Letters, 2011, 98, .	3.3	256
16	Photovoltaic Materials and Devices Based on the Alloyed Kesterite Absorber (Ag<i>_x</i>Cu_{1â€“}<i>_x</i>)₂ZnSnSe₄. Advanced Energy Materials, 2016, 6, 1502468.	19.5	226
17	Monolithic Perovskiteâ€CIGS Tandem Solar Cells via In Situ Band Gap Engineering. Advanced Energy Materials, 2015, 5, 1500799.	19.5	219
18	Optical designs that improve the efficiency of Cu₂ZnSn(S,Se)₄solar cells. Energy and Environmental Science, 2014, 7, 1029-1036.	30.8	200

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19	Characteristics of vaporâ€“liquidâ€“solid grown silicon nanowire solar cells. Solar Energy Materials and Solar Cells, 2009, 93, 1388-1393.	6.2	196
20	Electronic properties of the Cu2ZnSn(Se,S)4 absorber layer in solar cells as revealed by admittance spectroscopy and related methods. Applied Physics Letters, 2012, 100, .	3.3	194
21	12% Efficiency CuIn(Se,S)₂ Photovoltaic Device Prepared Using a Hydrazine Solution Process. Chemistry of Materials, 2010, 22, 1010-1014.	6.7	189
22	Perovskite-kesterite monolithic tandem solar cells with high open-circuit voltage. Applied Physics Letters, 2014, 105, .	3.3	175
23	Prospects and performance limitations for Cuâ€“Znâ€“Snâ€“Sâ€“Se photovoltaic technology. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2013, 371, 20110432.	3.4	166
24	Hydrazine-Processed Ge-Substituted CZTSe Solar Cells. Chemistry of Materials, 2012, 24, 4588-4593.	6.7	165
25	Electrodeposited Cu₂ZnSnSe₄ thin film solar cell with 7% power conversion efficiency. Progress in Photovoltaics: Research and Applications, 2014, 22, 58-68.	8.1	142
26	Progress towards marketable earth-abundant chalcogenide solar cells. Thin Solid Films, 2011, 519, 7378-7381.	1.8	137
27	Defects in Cu(In,Ga)Se₂ Chalcopyrite Semiconductors: A Comparative Study of Material Properties, Defect States, and Photovoltaic Performance. Advanced Energy Materials, 2011, 1, 845-853.	19.5	134
28	Enhancement of Open-Circuit Voltage of Solution-Processed Cu₂ZnSnS₄ Solar Cells with 7.2% Efficiency by Incorporation of Silver. ACS Energy Letters, 2016, 1, 1256-1261.	17.4	133
29	Measurement of Carrier Mobility in Silicon Nanowires. Nano Letters, 2008, 8, 1566-1571.	9.1	113
30	Earthâ€Abundant Chalcogenide Photovoltaic Devices with over 5% Efficiency Based on a Cu₂BaSn(S,Se)₄ Absorber. Advanced Materials, 2017, 29, 1606945.	21.0	112
31	Photovoltaic Device with over 5% Efficiency Based on an nâ€Type Ag₂ZnSnSe₄ Absorber. Advanced Energy Materials, 2016, 6, 1601182.	19.5	102
32	Ultrathin high band gap solar cells with improved efficiencies from the worldâ€™s oldest photovoltaic material. Nature Communications, 2017, 8, 682.	12.8	94
33	Minority carrier diffusion length extraction in Cu₂ZnSn(Se,S)₄ solar cells. Journal of Applied Physics, 2013, 114, 114511.	2.5	91
34	Suns-<i>VOC</i> characteristics of high performance kesterite solar cells. Journal of Applied Physics, 2014, 116, .	2.5	90
35	Fill Factor Losses in Cu₂ZnSn(S<i>_x</i>Se_{1â^’<i>x</i>})₄ Solar Cells: Insights from Physical and Electrical Characterization of Devices and Exfoliated Films. Advanced Energy Materials, 2016, 6, 1501609.	19.5	84
36	Semi-empirical device model for Cu2ZnSn(S,Se)4 solar cells. Applied Physics Letters, 2014, 105, .	3.3	81

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37	Atomic Layer Deposited Aluminum Oxide for Interface Passivation of Cu₂ZnSn(S,Se)₄ Thinâ€Film Solar Cells. Advanced Energy Materials, 2016, 6, 1600198.	19.5	75
38	Antimony assisted low-temperature processing of CuIn1âˆ’xGaxSe2âˆ’ySy solar cells. Thin Solid Films, 2010, 519, 852-856.	1.8	74
39	Carrier-resolved photo-Hall effect. Nature, 2019, 575, 151-155.	27.8	66
40	Reducing the interfacial defect density of CZTSSe solar cells by Mn substitution. Journal of Materials Chemistry A, 2018, 6, 1540-1550.	10.3	60
41	Understanding the relationship between Cu2ZnSn(S,Se)4 material properties and device performance. MRS Communications, 2014, 4, 159-170.	1.8	59
42	A parallel dipole line system. Applied Physics Letters, 2015, 106, .	3.3	57
43	Photovoltaic effect in earth abundant solution processed Cu2MnSnS4 and Cu2MnSn(S,Se)4 thin films. Solar Energy Materials and Solar Cells, 2016, 157, 867-873.	6.2	57
44	Back Contact Engineering for Increased Performance in Kesterite Solar Cells. Advanced Energy Materials, 2017, 7, 1602585.	19.5	54
45	Impact of PbI₂ Passivation and Grain Size Engineering in CH₃NH₃PbI₃ Solar Absorbers as Revealed by Carrierâ€Resolved Photoâ€Hall Technique. Advanced Energy Materials, 2019, 9, 1902706.	19.5	52
46	The impact of sodium on the sub-bandgap states in CZTSe and CZTS. Applied Physics Letters, 2015, 106, .	3.3	51
47	Inorganic photovoltaics â€“ Planar and nanostructured devices. Progress in Materials Science, 2016, 82, 294-404.	32.8	50
48	Preparation of single-phase SnSe thin-films and modification of electrical properties via stoichiometry control for photovoltaic application. Journal of Alloys and Compounds, 2017, 722, 474-481.	5.5	50
49	Electronically active defects in the Cu2ZnSn(Se,S)4 alloys as revealed by transient photocapacitance spectroscopy. Applied Physics Letters, 2012, 101, 142106.	3.3	48
50	The electrical and optical properties of kesterites. JPhys Energy, 2019, 1, 044002.	5.3	43
51	Improving Carrier-Transport Properties of CZTS by Mg Incorporation with Spray Pyrolysis. ACS Applied Materials & Interfaces, 2019, 11, 25824-25832.	8.0	42
52	Industrial perspectives on earth abundant, multinary thin film photovoltaics. Semiconductor Science and Technology, 2017, 32, 033004.	2.0	31
53	High-Efficiency Devices With Pure Solution-Processed Cu$_{f 2}$ ZnSn(S,Se)$_{f 4}$ Absorbers. IEEE Journal of Photovoltaics, 2014, 4, 483-485.	2.5	29
54	Unconventional kesterites: The quest to reduce band tailing in CZTSSe. Current Opinion in Green and Sustainable Chemistry, 2017, 4, 29-36.	5.9	29

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55	Size-dependent modulation of carrier mobility in top-down fabricated silicon nanowires. Applied Physics Letters, 2009, 95, 023113.	3.3	27
56	Examination of electronic structure differences between CIGSSe and CZTSSe by photoluminescence study. Journal of Applied Physics, 2015, 117, .	2.5	27
57	Improving the charge separation and collection at the buffer/absorber interface by double-layered Mn-substituted CZTS. Solar Energy Materials and Solar Cells, 2018, 185, 351-358.	6.2	27
58	Effects of Postsynthesis Thermal Conditions on Methylammonium Lead Halide Perovskite: Band Bending at Grain Boundaries and Its Impacts on Solar Cell Performance. Journal of Physical Chemistry C, 2016, 120, 21330-21335.	3.1	25
59	Compositional effects in Ag2ZnSnSe4 thin films and photovoltaic devices. Acta Materialia, 2017, 126, 383-388.	7.9	25
60	Atomic layer deposition of Al-incorporated Zn(O,S) thin films with tunable electrical properties. Applied Physics Letters, 2014, 105, .	3.3	18
61	p-Type molecular doping by charge transfer in halide perovskite. Materials Advances, 2021, 2, 2956-2965.	5.4	17
62	Torwards marketable efficiency solution-processed kesterite and chalcopyrite photovoltaic devices. , 2010, , .		13
63	Analysis of loss mechanisms in Ag2ZnSnSe4 Schottky barrier photovoltaics. Journal of Applied Physics, 2017, 121, .	2.5	12
64	Solar Cells: High Efficiency Cu2ZnSn(S,Se)4Solar Cells by Applying a Double In2S3/CdS Emitter (Adv.) Tj ETQq0 0 0 rgBT /Overlock 10 Tf	21.0	10
65	Optoelectronic property comparison for isostructural Cu₂BaGeSe₄ and Cu₂BaSnS₄ solar absorbers. Journal of Materials Chemistry A, 2021, 9, 23619-23630.	10.3	10
66	Dopant profile control of epitaxial emitter for silicon solar cells by low temperature epitaxy. Applied Physics Letters, 2011, 99, 011102.	3.3	7
67	Comparing the Effect of Mn Substitution in Sulfide and Sulfoselenideâ€Based Kesterite Solar Cells. Solar Rrl, 2020, 4, 1900521.	5.8	7
68	Dustâ€Sized Highâ€Powerâ€Density Photovoltaic Cells on Si and SOI Substrates for Waferâ€Levelâ€Packaged Small Edge Computers. Advanced Materials, 2020, 32, e2004573.	21.0	7
69	The one-dimensional camelback potential in the parallel dipole line trap: Stability conditions and finite size effect. Journal of Applied Physics, 2017, 121, 133902.	2.5	6
70	Record Efficiencies for Selenium Photovoltaics and Application to Indoor Solar Cells. , 2017, , .		5
71	Device characteristics of high performance Cu<inf>2</inf>ZnSnS<inf>4</inf> solar cell. , 2012, , .		4
72	Wire textured, multi-crystalline Si solar cells created using self-assembled masks. Optics Express, 2010, 18, A568.	3.4	3

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73	Flexible kesterite solar cells on ceramic substrates for advanced thermal processing. , 2015, , .		3
74	High efficiency Cu<inf>2</inf>ZnSn(S<inf>x</inf>Se<inf>1−x</inf>)<inf>4</inf> thin film solar cells by thermal co-evaporation. , 2011, , .		2
75	Patching of Lattice Defects in Two-Dimensional Diffusion Barriers. ACS Applied Nano Materials, 2018, 1, 3068-3074.	5.0	2
76	Magnetic-tip trap system. Physical Review Research, 2020, 2, .	3.6	2
77	Wire-textured silicon solar cells. , 2010, , .		1
78	High intensity and integrated Suns-Voc characterization of high performance kesterite solar cells. , 2015, , .		1
79	Fabrication and performance limitations in single crystal Cu2ZnSnSe4 solar cells. , 2017, , .		1
80	Capacitance analysis of wire-array solar cell. , 2010, , .		0
81	Optimization of Silver-alloying for improved photovoltaic properties of CZTSSe. , 2016, , .		0