Thomas Unold

List of Publications by Year
in descending order

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242 papers	12,627 citations	26567 56 h-index	30010 103 g-index
252 all docs	252 docs citations	252 times ranked	9629 citing authors

#	Article	IF	Citations
1	Monolithic perovskite/silicon tandem solar cell with >29% efficiency by enhanced hole extraction. Science, 2020, 370, 1300-1309.	6.0	1,120
2	Visualization and suppression of interfacial recombination for high-efficiency large-area pin perovskite solar cells. Nature Energy, 2018, 3, 847-854.	19.8	721
3	The impact of energy alignment and interfacial recombination on the internal and external open-circuit voltage of perovskite solar cells. Energy and Environmental Science, 2019, 12, 2778-2788.	15.6	570
4	Conformal monolayer contacts with lossless interfaces for perovskite single junction and monolithic tandem solar cells. Energy and Environmental Science, 2019, 12, 3356-3369.	15.6	519
5	Photoluminescenceâ€Based Characterization of Halide Perovskites for Photovoltaics. Advanced Energy Materials, 2020, 10, 1904134.	10.2	299
6	Open-Circuit Voltages Exceeding 1.26 V in Planar Methylammonium Lead Iodide Perovskite Solar Cells. ACS Energy Letters, 2019, 4, 110-117.	8.8	296
7	On the Relation between the Openâ€Circuit Voltage and Quasiâ€Fermi Level Splitting in Efficient Perovskite Solar Cells. Advanced Energy Materials, 2019, 9, 1901631.	10.2	275
8	Cu₂ZnSnS₄ thin film solar cells by fast coevaporation. Progress in Photovoltaics: Research and Applications, 2011, 19, 93-96.	4.4	270
9	Interpretation of admittance, capacitance-voltage, and current-voltage signatures in Cu(In,Ga)Se2 thin film solar cells. Journal of Applied Physics, 2010, 107, .	1.1	249
10	Beyond Bulk Lifetimes: Insights into Lead Halide Perovskite Films from Time-Resolved Photoluminescence. Physical Review Applied, 2016, 6, .	1.5	194
11	Optical Control of Excitons in a Pair of Quantum Dots Coupled by the Dipole-Dipole Interaction. Physical Review Letters, 2005, 94, 137404.	2.9	187
12	Improved performance of Geâ€alloyed CZTGeSSe thinâ€film solar cells through control of elemental losses. Progress in Photovoltaics: Research and Applications, 2015, 23, 376-384.	4.4	186
13	Cliff-like conduction band offset and KCN-induced recombination barrier enhancement at the CdS/Cu2ZnSnS4 thin-film solar cell heterojunction. Applied Physics Letters, 2011, 99, .	1.5	181
14	21.6%-Efficient Monolithic Perovskite/Cu(In,Ga)Se₂ Tandem Solar Cells with Thin Conformal Hole Transport Layers for Integration on Rough Bottom Cell Surfaces. ACS Energy Letters, 2019, 4, 583-590.	8.8	155
15	Charge transfer rates and electron trapping at buried interfaces of perovskite solar cells. Joule, 2021, 5, 2915-2933.	11.7	140
16	An open-access database and analysis tool for perovskite solar cells based on the FAIR data principles. Nature Energy, 2022, 7, 107-115.	19.8	136
17	The Doping Mechanism of Halide Perovskite Unveiled by Alkaline Earth Metals. Journal of the American Chemical Society, 2020, 142, 2364-2374.	6.6	132
18	Tuning halide perovskite energy levels. Energy and Environmental Science, 2021, 14, 1429-1438.	15.6	124

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19	Gallium gradients in Cu(In,Ga)Se₂thin-film solar cells. Progress in Photovoltaics: Research and Applications, 2015, 23, 717-733.	4.4	122
20	Optical Stark Effect in a Quantum Dot: Ultrafast Control of Single Exciton Polarizations. Physical Review Letters, 2004, 92, 157401.	2.9	120
21	Fineâ€Tuning the Sn Content in CZTSSe Thin Films to Achieve 10.8% Solar Cell Efficiency from Sprayâ€Deposited Waterâ€"Ethanolâ€Based Colloidal Inks. Advanced Energy Materials, 2015, 5, 1501404.	10.2	120
22	The influence of Na on low temperature growth of CIGS thin film solar cells on polyimide substrates. Thin Solid Films, 2009, 517, 2187-2190.	0.8	119
23	Synergistic Effects of Double Cation Substitution in Solutionâ€Processed CZTS Solar Cells with over 10% Efficiency. Advanced Energy Materials, 2018, 8, 1802540.	10.2	113
24	Direct Time-Resolved Observation of Carrier Trapping and Polaron Conductivity in BiVO₄. ACS Energy Letters, 2016, 1, 888-894.	8.8	111
25	Determination of secondary phases in kesterite Cu2ZnSnS4 thin films by x-ray absorption near edge structure analysis. Applied Physics Letters, 2011, 99, .	1.5	109
26	Low Temperature Synthesis of Stable Î³â€CsPbI₃ Perovskite Layers for Solar Cells Obtained by High Throughput Experimentation. Advanced Energy Materials, 2019, 9, 1900555.	10.2	108
27	Upper limit to the photovoltaic efficiency of imperfect crystals from first principles. Energy and Environmental Science, 2020, 13, 1481-1491.	15.6	107
28	Identifying the Real Minority Carrier Lifetime in Nonideal Semiconductors: A Case Study of Kesterite Materials. Advanced Energy Materials, 2017, 7, 1700167.	10.2	106
29	Experimental indication for band gap widening of chalcopyrite solar cell absorbers after potassium fluoride treatment. Applied Physics Letters, 2014, 105, .	1.5	105
30	Oxygen deficiency and Sn doping of amorphous Ga2O3. Applied Physics Letters, 2016, 108, .	1.5	103
31	Compositionally Tunable Photoluminescence Emission in Cu₂ZnSn(S_{1â^'<i>x</i>}Se_{<i>x</i>})₄ Nanocrystals. Angewandte Chemie - International Edition, 2013, 52, 9120-9124.	7.2	98
32	Phase-transition-driven growth of compound semiconductor crystals from ordered metastable nanorods. Nature Communications, 2014, 5, 3133.	5.8	98
33	Free-to-bound recombination in near stoichiometric Cu<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mrow /><mml:mn>2</mml:mn></mml:msub></mml:math>ZnSnS<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mrow /><mml:mn>4</mml:mn></mml:msub></mml:math>single crystals. Physical Review B, 2012, 86, .	1.1	97
34	Understanding Performance Limiting Interfacial Recombination in <i>pin</i> Perovskite Solar Cells. Advanced Energy Materials, 2022, 12, .	10.2	95
35	Direct Insight into Grain Boundary Reconstruction in Polycrystalline<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>Cu</mml:mi><mml:mo stretchy="false">(</mml:mo><mml:mi>In</mml:mi><mml:mo>,</mml:mo><mml:mi>Ga</mml:mi><mml:mo) Tj ETQ q 1 1 0.784314 rg BT Atomic Resolution. Physical Review Letters, 2012, 108, 075502.	2.9	90
36	Highâ€Efficiency (Li<i>_x</i>Cu_{1â^'}<i>_x</i>)₂ZnSn(S,Se)₄ Kesterite Solar Cells with Lithium Alloying. Advanced Energy Materials, 2018, 8, 1801191.	10.2	87

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37	Real-time observation of Cu2ZnSn(S,Se)4 solar cell absorber layer formation from nanoparticle precursors. Physical Chemistry Chemical Physics, 2013, 15, 18281.	1.3	86
38	Junction formation by Zn(O,S) sputtering yields CIGSe-based cells with efficiencies exceeding 18%. Progress in Photovoltaics: Research and Applications, 2014, 22, 161-165.	4.4	86
39	Confined and Chemically Flexible Grain Boundaries in Polycrystalline Compound Semiconductors. Advanced Energy Materials, 2012, 2, 992-998.	10.2	84
40	Nonconventional (Non-Silicon-Based) Photovoltaic Materials. Annual Review of Materials Research, 2011, 41, 297-321.	4.3	82
41	Depth profiling of Cu(In,Ga)Se2 thin films grown at low temperatures. Solar Energy Materials and Solar Cells, 2009, 93, 859-863.	3.0	81
42	Secondary phases and their influence on the composition of the kesterite phase in CZTS and CZTSe thin films. Physical Chemistry Chemical Physics, 2016, 18, 15988-15994.	1.3	77
43	The phase diagram of a mixed halide (Br, I) hybrid perovskite obtained by synchrotron X-ray diffraction. RSC Advances, 2019, 9, 11151-11159.	1.7	76
44	Influence of Na on Cu(In,Ga)Se2 solar cells grown on polyimide substrates at low temperature: Impact on the Cu(In,Ga)Se2/Mo interface. Applied Physics Letters, 2010, 96, .	1.5	75
45	Effects of Disorder on Carrier Transport in<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mrow><mml:msub><mml:mrow><mml:mi>Cu</mml:mi></mml:mrow><mml:mrow><mml:mn>2 Physical Review Applied, 2015, 4, .	1.5	73
46	Impact of KCN etching on the chemical and electronic surface structure of Cu2ZnSnS4 thin-film solar cell absorbers. Applied Physics Letters, 2011, 99, .	1.5	69
47	Compositional and Interfacial Engineering Yield High-Performance and Stable p-i-n Perovskite Solar Cells and Mini-Modules. ACS Applied Materials & Interfaces, 2021, 13, 13022-13033.	4.0	69
48	Effects of Thermochemical Treatment on CuSbS₂ Photovoltaic Absorber Quality and Solar Cell Reproducibility. Journal of Physical Chemistry C, 2016, 120, 18377-18385.	1.5	67
49	Deep Defects in<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow><mml:mi>Cu</mml:mi></mml:mrow><mml:mn>2</mml:mn></mml:msub> stretchy="false">(</mml:mo><mml:mi) Tj ETQq1 1 0.784314 rgBT /Overlock 10 Tf 50 262 Td (mathvariant="normal">S</mml:mi> Cells with Varying Se Content. Physical Review Applied, 2016, 5, .	1.5	67
50	Efficient CuInS2 solar cells by reactive magnetron sputtering. Applied Physics Letters, 2006, 88, 213502.	1.5	65
51	Inâ€situ XRD on formation reactions of Cu₂ZnSnS₄ thin films. Physica Status Solidi C: Current Topics in Solid State Physics, 2009, 6, 1245-1248.	0.8	65
52	Generalized current-voltage analysis and efficiency limitations in non-ideal solar cells: Case of Cu2ZnSn(SxSe1â^'x)4 and Cu2Zn(SnyGe1â^'y)(SxSe1â^'x)4. Journal of Applied Physics, 2014, 115, .	1.1	65
53	Suppressed Deep Traps and Bandgap Fluctuations in Cu₂CdSnS₄ Solar Cells with â‰ˆ8% Efficiency. Advanced Energy Materials, 2019, 9, 1902509.	10.2	65
54	Investigation of the Subâ€Bandgap Photoresponse in CuGaS₂â€‰:â€‰Fe for Intermediate Band Solar Cells. Progress in Photovoltaics: Research and Applications, 2012, 20, 625-629.	4.4	62

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55	High efficiency low temperature grown Cu(In,Ga)Se₂ thin film solar cells on flexible substrates using NaF precursor layers. Progress in Photovoltaics: Research and Applications, 2011, 19, 547-551.	4.4	60
56	Characterization of metastabilities in Cu(In,Ga)Se2 thin-film solar cells by capacitance and current-voltage spectroscopy. Journal of Applied Physics, 2011, 110, .	1.1	59
57	Chemistry and Dynamics of Ge in Kesterite: Toward Band-Gap-Graded Absorbers. Chemistry of Materials, 2017, 29, 9399-9406.	3.2	59
58	Spatially resolved photoluminescence measurements on Cu(In,Ga)Se2 thin films. Thin Solid Films, 2002, 403-404, 453-456.	0.8	58
59	Tradeâ€Offs in Thin Film Solar Cells with Layered Chalcostibite Photovoltaic Absorbers. Advanced Energy Materials, 2017, 7, 1601935.	10.2	58
60	High open circuit voltages in pin-type perovskite solar cells through strontium addition. Sustainable Energy and Fuels, 2019, 3, 550-563.	2.5	57
61	Deep Defect States in Wide-Band-Gap ABX₃ Halide Perovskites. ACS Energy Letters, 2019, 4, 1150-1157.	8.8	54
62	Large-Grain Double Cation Perovskites with 18 Î¼s Lifetime and High Luminescence Yield for Efficient Inverted Perovskite Solar Cells. ACS Energy Letters, 2021, 6, 1045-1054.	8.8	54
63	Impact of the Ga concentration on the microstructure of CuIn_{1â€“<i>x</i>}Ga_{<i>x</i>}Se₂. Physica Status Solidi - Rapid Research Letters, 2008, 2, 135-137.	1.2	53
64	The effect of NaF precursors on low temperature growth of CIGS thin film solar cells on polyimide substrates. Physica Status Solidi (A) Applications and Materials Science, 2009, 206, 1049-1053.	0.8	53
65	Optical methodology for process monitoring of chalcopyrite photovoltaic technologies: Application to low cost Cu(In,Ga)(S,Se)2 electrodeposition based processes. Solar Energy Materials and Solar Cells, 2016, 158, 168-183.	3.0	51
66	Microscopic origins of performance losses in highly efficient Cu(In,Ga)Se2 thin-film solar cells. Nature Communications, 2020, 11, 4189.	5.8	51
67	Influence of grain boundaries on current collection in Cu(In,Ga)Se2 thin-film solar cells. Thin Solid Films, 2009, 517, 2554-2557.	0.8	50
68	Cu(In,Ga)Se₂ superstrate solar cells: prospects and limitations. Progress in Photovoltaics: Research and Applications, 2015, 23, 1228-1237.	4.4	50
69	Assessment of a W:BiVO₄â€“CuBi₂O₄Tandem Photoelectrochemical Cell for Overall Solar Water Splitting. ACS Applied Materials & Interfaces, 2020, 12, 13959-13970.	4.0	50
70	Grain-boundary types in chalcopyrite-type thin films and their correlations with film texture and electrical properties. Thin Solid Films, 2009, 517, 2545-2549.	0.8	49
71	Influence of iron on defect concentrations and device performance for Cu(In,Ga)Se₂ solar cells on stainless steel substrates. Progress in Photovoltaics: Research and Applications, 2012, 20, 568-574.	4.4	49
72	Native oxidation and Cu-poor surface structure of thin film Cu2ZnSnS4 solar cell absorbers. Applied Physics Letters, 2011, 99, .	1.5	48

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73	Pathways toward 30% Efficient Singleâ€Junction Perovskite Solar Cells and the Role of Mobile Ions. Solar Rrl, 2021, 5, 2100219.	3.1	48
74	Generation-dependent charge carrier transport in Cu(In,Ga)Se2/CdS/ZnO thin-film solar-cells. Journal of Applied Physics, 2013, 113, 044515.	1.1	47
75	Compositional and electrical properties of line and planar defects in Cu(In,Ga)Se₂ thin films for solar cells â€“ a review. Physica Status Solidi - Rapid Research Letters, 2016, 10, 363-375.	1.2	47
76	Evolution of opto-electronic properties during film formation of complex semiconductors. Scientific Reports, 2017, 7, 45463.	1.6	47
77	Rapid Photovoltaic Device Characterization through Bayesian Parameter Estimation. Joule, 2017, 1, 843-856.	11.7	47
78	Nanometer-scale electronic and microstructural properties of grain boundaries in Cu(In,Ga)Se2. Thin Solid Films, 2011, 519, 7341-7346.	0.8	46
79	BaZrS₃ Chalcogenide Perovskite Thin Films by H₂S Sulfurization of Oxide Precursors. Journal of Physical Chemistry Letters, 2021, 12, 2148-2153.	2.1	46
80	Interference effects in photoluminescence spectra of Cu2ZnSnS4 and Cu(In,Ga)Se2 thin films. Journal of Applied Physics, 2015, 118, .	1.1	45
81	Cu 2 ZnSnS 4 -based thin films and solar cells by rapid thermal annealing processing. Thin Solid Films, 2017, 628, 1-6.	0.8	45
82	From Bulk to Surface: Sodium Treatment Reduces Recombination at the Nickel Oxide/Perovskite Interface. Advanced Materials Interfaces, 2019, 6, 1900789.	1.9	45
83	Origin of defects in CuIn1âˆ’xGaxSe2 solar cells with varied Ga content. Thin Solid Films, 2009, 517, 2244-2247.	0.8	43
84	The electrical and optical properties of kesterites. JPhys Energy, 2019, 1, 044002.	2.3	43
85	Optical <i>in situ</i> monitoring during the synthesis of halide perovskite solar cells reveals formation kinetics and evolution of optoelectronic properties. Journal of Materials Chemistry A, 2020, 8, 10439-10449.	5.2	43
86	Effect of precursor stacking order and sulfurization temperature on compositional homogeneity of CZTS thin films. Thin Solid Films, 2016, 615, 402-408.	0.8	41
87	Investigation of the SnS/Cu₂ZnSnS₄ Interfaces in Kesterite Thin-Film Solar Cells. ACS Energy Letters, 2017, 2, 976-981.	8.8	40
88	Predicting Solar Cell Performance from Terahertz and Microwave Spectroscopy. Advanced Energy Materials, 2022, 12, .	10.2	40
89	Deep defect structure and carrier dynamics in amorphous silicon and silicon-germanium alloys determined by transient photocapacitance methods. Journal of Non-Crystalline Solids, 1992, 141, 142-154.	1.5	39
90	Increased homogeneity and open-circuit voltage of Cu(In,Ga)Se2 solar cells due to higher deposition temperature. Solar Energy Materials and Solar Cells, 2011, 95, 1028-1030.	3.0	39

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91	Temperature dependency of Cu/Zn ordering in CZTSe kesterites determined by anomalous diffraction. Physica Status Solidi (B): Basic Research, 2016, 253, 1890-1897.	0.7	39
92	Formation of CuInSe₂ and CuGaSe₂ Thinâ€Films Deposited by Threeâ€Stage Thermal Coâ€Evaporation: A Realâ€Time Xâ€Ray Diffraction and Fluorescence Study. Advanced Energy Materials, 2013, 3, 1381-1387.	10.2	37
93	Effects of Ti-incorporation in CuInS2 solar cells. Solar Energy Materials and Solar Cells, 2010, 94, 1730-1733.	3.0	33
94	Numerical simulation of cross section electron-beam induced current in thin-film solar-cells for low and high injection conditions. Journal of Applied Physics, 2013, 114, 134504.	1.1	33
95	Intragrain charge transport in kesterite thin filmsâ€"Limits arising from carrier localization. Journal of Applied Physics, 2016, 120, .	1.1	33
96	Investigation of coevaporated Cu(In,Ga)Se2 thin films in highly efficient solar cell devices. Thin Solid Films, 2007, 515, 6217-6221.	0.8	32
97	Effect of sodium on material and device quality in low temperature deposited Cu(In,Ga)Se2. Solar Energy Materials and Solar Cells, 2013, 119, 281-286.	3.0	32
98	Time resolved photoluminescence on Cu(In, Ga)Se2 absorbers: Distinguishing degradation and trap states. Applied Physics Letters, 2017, 110, .	1.5	32
99	Glow discharge optical emission spectrometry for quantitative depth profiling of CIGS thin-films. Journal of Analytical Atomic Spectrometry, 2019, 34, 1233-1241.	1.6	32
100	Electronic structure of Cu<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mrow /><mml:mn>2</mml:mn></mml:msub></mml:math>ZnSnS<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mrow /><mml:mn>4</mml:mn></mml:msub></mml:math>probed by soft x-ray emission and absorption spectroscopy. Physical Review B, 2011, 84, .	1.1	31
101	Synthesis and Characterization of V-Doped Î²-In₂S₃ Thin Films on FTO Substrates. Journal of Physical Chemistry C, 2016, 120, 28753-28761.	1.5	31
102	Minority and Majority Charge Carrier Mobility in Cu2ZnSnSe4 revealed by Terahertz Spectroscopy. Scientific Reports, 2018, 8, 14476.	1.6	31
103	Analysis of grain orientation and defects in Sb2Se3 solar cells fabricated by close-spaced sublimation. Solar Energy, 2021, 225, 494-500.	2.9	31
104	Orders of Recombination in Complete Perovskite Solar Cells â€" Linking Timeâ€Resolved and Steadyâ€State Measurements. Advanced Energy Materials, 2021, 11, 2101823.	10.2	31
105	Phonon confinement and strain in CuInS2. Applied Physics Letters, 2008, 92, 101922.	1.5	30
106	Defect study of Cu2ZnSn(SxSe1â^'x)4 thin film absorbers using photoluminescence and modulated surface photovoltage spectroscopy. Applied Physics Letters, 2015, 106, .	1.5	30
107	Structural characterization of off-stoichiometric kesterite-type Cu₂ZnGeSe₄ compound semiconductors: from cation distribution to intrinsic point defect density. CrystEngComm, 2018, 20, 1491-1498.	1.3	30
108	Mixtures of Dopant-Free Spiro-OMeTAD and Water-Free PEDOT as a Passivating Hole Contact in Perovskite Solar Cells. ACS Applied Materials & Interfaces, 2019, 11, 9172-9181.	4.0	28

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109	Improved Quantum Efficiency by Advanced Light Management in Nanotextured Solution-Processed Perovskite Solar Cells. ACS Photonics, 2020, 7, 2589-2600.	3.2	27
110	Imaging characterization techniques applied to Cu(In,Ga)Se2 solar cells. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2010, 28, 665-670.	0.9	26
111	Investigation of the potassium fluoride post deposition treatment on the CIGSe/CdS interface using hard X-ray photoemission spectroscopy â€“ a comparative study. Physical Chemistry Chemical Physics, 2016, 18, 14129-14138.	1.3	26
112	Effect of carbon impurities on the density of states and the stability of hydrogenated amorphous silicon. Physical Review B, 1994, 50, 16985-16994.	1.1	25
113	Inhomogeneities in Cu(In,Ga)Se₂ Thin Films for Solar Cells: Bandâ€Gap Versus Potential Fluctuations. Solar Rrl, 2018, 2, 1700199.	3.1	25
114	Electron-beam-induced current at absorber back surfaces of Cu(In,Ga)Se2 thin-film solar cells. Journal of Applied Physics, 2014, 115, .	1.1	24
115	Earth abundant thin film solar cells from co-evaporated Cu2SnS3 absorber layers. Journal of Alloys and Compounds, 2016, 689, 182-186.	2.8	24
116	Comment on â€œResolving spatial and energetic distributions of trap states in metal halide perovskite solar cellsâ€• Science, 2021, 371, .	6.0	24
117	Effect of Na presence during CuInSe2 growth on stacking fault annihilation and electronic properties. Applied Physics Letters, 2015, 107, .	1.5	23
118	Optoelectronic and material properties of solution-processed Earth-abundant Cu2BaSn(S, Se)4 films for solar cell applications. Nano Energy, 2021, 80, 105556.	8.2	23
119	Anisotropy in the transport of microcrystalline silicon. Journal of Non-Crystalline Solids, 2000, 266-269, 325-330.	1.5	22
120	Origins of electrostatic potential wells at dislocations in polycrystalline Cu(In,Ga)Se2 thin films. Journal of Applied Physics, 2014, 115, .	1.1	22
121	Sudden stress relaxation in compound semiconductor thin films triggered by secondary phase segregation. Physical Review B, 2015, 92, .	1.1	22
122	Measurement of charge carrier mobilities in thin films on metal substrates by reflection time resolved terahertz spectroscopy. Optics Express, 2017, 25, 17227.	1.7	22
123	The role of the CdS buffer layer in CuGaSe₂-based solar cells. Journal of Physics Condensed Matter, 2007, 19, 356222.	0.7	21
124	The role of interparticle heterogeneities in the selenization pathway of Cuâ€“Znâ€“Snâ€“S nanoparticle thin films: a real-time study. Journal of Materials Chemistry C, 2015, 3, 7128-7134.	2.7	21
125	Effects of Postdeposition Annealing on the Luminescence of Mixed-Phase CsPb₂Br₅/CsPbBr₃ Thin Films. Journal of Physical Chemistry C, 2020, 124, 19514-19521.	1.5	21
126	Correlations of Cu(In, Ga)Se2 imaging with device performance, defects, and microstructural properties. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2012, 30, 04D111.	0.9	20

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127	Phototransistor effects in Cu(In,Ga)Se2 solar cells. Thin Solid Films, 2013, 535, 275-278.	0.8	20
128	Dependence of phase transitions on halide ratio in inorganic CsPb(Br_{<i>x</i>}I_{1âˆ’<i>x</i>})₃ perovskite thin films obtained from high-throughput experimentation. Journal of Materials Chemistry A, 2020, 8, 22626-22631.	5.2	20
129	High surface recombination velocity limits Quasi-Fermi level splitting in kesterite absorbers. Scientific Reports, 2018, 8, 1874.	1.6	19
130	Revealing the doping density in perovskite solar cells and its impact on device performance. Applied Physics Reviews, 2022, 9, .	5.5	19
131	Enhancement of lightâ€induced degradation in hydrogenated amorphous silicon due to carbon impurities. Applied Physics Letters, 1991, 58, 723-725.	1.5	18
132	Electronic mobility gap structure and deep defects in amorphous siliconâ€germanium alloys. Applied Physics Letters, 1994, 64, 1714-1716.	1.5	18
133	Photoluminescence studies of a-Si:H/c-Si-heterojunction solar cells. Journal of Non-Crystalline Solids, 2004, 338-340, 444-447.	1.5	18
134	Compositional Gradients in Cu(In,Ga)Se$_{f 2}$ Thin Films for Solar Cells and Their Effects on Structural Defects. IEEE Journal of Photovoltaics, 2012, 2, 364-370.	1.5	18
135	Insights into Nucleation and Growth of Colloidal Quaternary Nanocrystals by Multimodal X-ray Analysis. ACS Nano, 2021, 15, 6439-6447.	7.3	18
136	Probing the Origin of the Open Circuit Voltage in Perovskite Quantum Dot Photovoltaics. ACS Nano, 2021, 15, 19334-19344.	7.3	18
137	ZnO/NiO heterostructures with enhanced photocatalytic activity obtained by ultrasonic spraying of a NiO shell onto ZnO nanorods. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2022, 648, 129366.	2.3	18
138	Chalcopyrite Thin-Film Materials and Solar Cells. , 2012, , 399-422.		17
139	Metal acetate based synthesis of small-sized Cu₂ZnSnS₄ nanocrystals: effect of injection temperature and synthesis time. RSC Advances, 2017, 7, 11752-11760.	1.7	17
140	Combined Raman scattering/photoluminescence analysis of Cu(In,Ga)Se2 electrodeposited layers. Solar Energy, 2014, 103, 89-95.	2.9	16
141	The Importance of Sodium Control in CIGSe Superstrate Solar Cells. IEEE Journal of Photovoltaics, 2015, 5, 378-381.	1.5	15
142	Water Adsorption Enhances Electrical Conductivity in Transparent P-Type CuI. ACS Applied Materials & Interfaces, 2020, 12, 48741-48747.	4.0	15
143	Porous thin films grown from size-selected silicon nanocrystals. Materials Science and Engineering C, 2005, 25, 584-589.	3.8	14
144	Cu₂ZnSnS₄ thin-film solar cell absorbers illuminated by soft x-rays. Journal of Materials Research, 2012, 27, 1097-1104.	1.2	14

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145	Microscopic mobilities and cooling dynamics of photoexcited carriers in polycrystalline CuInSe<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mrow /><mml:mn>2</mml:mn></mml:msub></mml:math>. Physical Review B, 2014, 89, .	1.1	14
146	Depth distribution of secondary phases in kesterite Cu2ZnSnS4 by angle-resolved X-ray absorption spectroscopy. APL Materials, 2017, 5, .	2.2	14
147	Monitoring Charge Carrier Diffusion across a Perovskite Film with Transient Absorption Spectroscopy. Journal of Physical Chemistry Letters, 2020, 11, 445-450.	2.1	14
148	Effect of Zn incorporation into CuInS2 solar cell absorbers on microstructural and electrical properties. Journal of Applied Physics, 2011, 110, .	1.1	13
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