Alex Redinger

List of Publications by Year
in descending order

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76 papers	3,473 citations	172207 29 h-index	138251 58 g-index
78 all docs	78 docs citations	78 times ranked	3654 citing authors

#	Article	IF	Citations
1	Impact of metallic potassium post-deposition treatment on epitaxial Cu(In,Ga)Se2. Thin Solid Films, 2022, 741, 139002.	0.8	2
2	Single-crystalline TiO2 nanoparticles for stable and efficient perovskite modules. Nature Nanotechnology, 2022, 17, 598-605.	15.6	121
3	How much gallium do we need for a p-type Cu(In,Ga)Se2?. APL Materials, 2022, 10, .	2.2	3
4	The impact of strain on growth mode in chemical vapor deposited mono- and few-layer MoS₂. AIP Advances, 2022, 12, 065010.	0.6	0
5	Surface Passivation and Detrimental Heat-Induced Diffusion Effects in RbF-Treated Cu(In,Ga)Se₂ Solar Cell Absorbers. ACS Applied Materials & Interfaces, 2022, 14, 34101-34112.	4.0	3
6	Co-evaporation of CH₃NH₃PbI₃: How Growth Conditions Impact Phase Purity, Photostriction, and Intrinsic Stability. ACS Applied Materials & Interfaces, 2021, 13, 2642-2653.	4.0	14
7	Influence of Kelvin probe force microscopy operation modes and environment on grain boundary band bending in perovskite and Cu(In,Ga)Se<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline" id="d1e210" altimg="si5.svg"><mml:msub><mml:mrow /><mml:mrow><mml:mn>2</mml:mn></mml:mrow></mml:msub></mml:math> solar cells. Nano Energy, 2021, 88, 106270.	8.2	24
8	Nanoscale interfacial engineering enables highly stable and efficient perovskite photovoltaics. Energy and Environmental Science, 2021, 14, 5552-5562.	15.6	69
9	Roadmap on organicâ€“inorganic hybrid perovskite semiconductors and devices. APL Materials, 2021, 9, .	2.2	102
10	Electronic and compositional properties of the rearâ€side of stoichiometric CuInSe 2 absorbers. Progress in Photovoltaics: Research and Applications, 2020, 29, 775.	4.4	2
11	Passivation of the <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mi mathvariant="normal">CuInSe</mml:mi><mml:mn>2</mml:mn></mml:msub></mml:math> surface via cadmium pre-electrolyte treatment. Physical Review Materials, 2020, 4, .	0.9	2
12	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
13	Fermi-level pinning in methylammonium lead iodide perovskites. Nanoscale, 2019, 11, 16828-16836.	2.8	38
14	Surface characterization of epitaxial Cu-rich CuInSe2 absorbers. , 2019, , .		0
15	Effects of Annealing and Light on Co-evaporated Methylammonium Lead Iodide Perovskites using Kelvin Probe Force Microscopy in Ultra-High Vacuum. , 2019, , .		1
16	Variable chemical decoration of extended defects in Cu-poor <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi mathvariant="normal">C</mml:mi><mml:msub><mml:mi mathvariant="normal">u</mml:mi><mml:mn>2</mml:mn></mml:msub><mml:mi>ZnSnS</mml:mi><mml:msub><mml:mi mathvariant="normal">e</mml:mi><mml:mn>4</mml:mn></mml:msub></mml:mrow></mml:math> thin films. Physical Review Materials, 2019, 3, .	0.9	5
17	High surface recombination velocity limits Quasi-Fermi level splitting in kesterite absorbers. Scientific Reports, 2018, 8, 1874.	1.6	19
18	Silver-Doped Cu₂SnS₃Absorber Layers for Solar Cells Application. IEEE Journal of Photovoltaics, 2018, 8, 299-304.	1.5	17

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19	Advanced characterization and in-situ growth monitoring of Cu(In,Ga)Se2 thin films and solar cells. Solar Energy, 2018, 170, 102-112.	2.9	11
20	Investigation of the SnS/Cu‹sub›2‹/sub›ZnSnS‹sub›4‹/sub› Interfaces in Kesterite Thin-Film Solar Cells. ACS Energy Letters, 2017, 2, 976-981.	8.8	40
21	Formation of nanometer-sized Cu-Sn-Se particles in Cu2ZnSnSe4 thin-films and their effect on solar cell efficiency. Acta Materialia, 2017, 132, 276-284.	3.8	3
22	Identifying the Real Minority Carrier Lifetime in Nonideal Semiconductors: A Case Study of Kesterite Materials. Advanced Energy Materials, 2017, 7, 1700167.	10.2	106
23	Time resolved photoluminescence on Cu(In, Ga)Se2 absorbers: Distinguishing degradation and trap states. Applied Physics Letters, 2017, 110, .	1.5	32
24	Chemistry and Dynamics of Ge in Kesterite: Toward Band-Gap-Graded Absorbers. Chemistry of Materials, 2017, 29, 9399-9406.	3.2	59
25	Optical properties of Cu_2ZnSnSe_4 thin films and identification of secondary phases by spectroscopic ellipsometry. Optics Express, 2017, 25, 5327.	1.7	13
26	Quantitative PL imaging of thin film solar cells â€" potential and pitfalls. , 2017, , .		1
27	Intragrain charge transport in kesterite thin filmsâ€"Limits arising from carrier localization. Journal of Applied Physics, 2016, 120, .	1.1	33
28	Photoluminescence studies in epitaxial CZTSe thin films. Journal of Applied Physics, 2016, 120, 125701.	1.1	5
29	Impact of annealing on electrical properties of Cu2ZnSnSe4 absorber layers. Journal of Applied Physics, 2016, 120, 045703.	1.1	8
30	Radiative recombination from localized states in CZT(S, Se) investigated by combined PL and TRPL at low temperatures. , 2016, , .		1
31	Quantitative PL imaging of thin film solar cells â€" Potential and pitfalls. , 2016, , .		8
32	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
33	Cu2ZnSnSe4 Solar Cells with Varying Se Content. Physical Review Applied, 2016, 5, . <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><mml:mo stretchy="false">(</mml:mo><mml:mi) Tj ETQq1 1 0.784314 rgBT /Overlock 10 Tf 50 182 Td (mathvariant="normal">S</mml:mi></mml:mrow></mml:math>	1.5	67
34	Diffuse electroreflectance of thin-film solar cells: Suppression of interference-related lineshape distortions. Applied Physics Letters, 2015, 107, .	1.5	19
35	Detection of a MoSe2 secondary phase layer in CZTSe by spectroscopic ellipsometry. Journal of Applied Physics, 2015, 118, 185302.	1.1	8
36	Detection of Cu2Zn5SnSe8 and Cu2Zn6SnSe9 phases in co-evaporated Cu2ZnSnSe4 thin-films. Applied Physics Letters, 2015, 107, .	1.5	6

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37	Epitaxial Cu 2 ZnSnSe 4 thin films and devices. Thin Solid Films, 2015, 582, 193-197.	0.8	3
38	Different Bandgaps in Cu$_2$ ZnSnSe$_4$: A High Temperature Coevaporation Study. IEEE Journal of Photovoltaics, 2015, 5, 641-648.	1.5	22
39	Highly conductive ZnO films with high near infrared transparency. Progress in Photovoltaics: Research and Applications, 2015, 23, 1630-1641.	4.4	21
40	Atom probe tomography study of internal interfaces in Cu2ZnSnSe4 thin-films. Journal of Applied Physics, 2015, 118, .	1.1	25
41	Direct Evaluation of Defect Distributions From Admittance Spectroscopy. IEEE Journal of Photovoltaics, 2014, 4, 1665-1670.	1.5	29
42	Assessment of crystal quality and unit cell orientation in epitaxial Cu_2ZnSnSe_4 layers using polarized Raman scattering. Optics Express, 2014, 22, 28240.	1.7	2
43	The band gap of Cu2ZnSnSe4: Effect of order-disorder. Applied Physics Letters, 2014, 105, 112106.	1.5	211
44	Cuâ€Rich Precursors Improve Kesterite Solar Cells. Advanced Energy Materials, 2014, 4, 1300543.	10.2	49
45	Multiple phases of Cu2ZnSnSe4 detected by room temperature photoluminescence. Journal of Applied Physics, 2014, 116, .	1.1	12
46	Cu₂ZnSnSe₄ thin film solar cells produced via coâ€evaporation and annealing including a SnSe₂ capping layer. Progress in Photovoltaics: Research and Applications, 2014, 22, 51-57.	4.4	56
47	Nano-scale Characterization of Thin-Film Solar Cells. Microscopy and Microanalysis, 2014, 20, 394-395.	0.2	5
48	Admittance spectroscopy in kesterite solar cells: Defect signal or circuit response. Applied Physics Letters, 2013, 102, .	1.5	40
49	Influence of S/Se ratio on series resistance and on dominant recombination pathway in Cu2ZnSn(SSe)4 thin film solar cells. Thin Solid Films, 2013, 535, 291-295.	0.8	80
50	Atom probe study of Cu2ZnSnSe4 thin-films prepared by co-evaporation and post-deposition annealing. Applied Physics Letters, 2013, 102, .	1.5	59
51	HCl and Br2-MeOH etching of Cu2ZnSnSe4 polycrystalline absorbers. Thin Solid Films, 2013, 535, 83-87.	0.8	66
52	Detecting ZnSe secondary phase in Cu2ZnSnSe4 by room temperature photoluminescence. Applied Physics Letters, 2013, 102, .	1.5	49
53	The three A symmetry Raman modes of kesterite in Cu_2ZnSnSe_4. Optics Express, 2013, 21, A695.	1.7	45
54	Role of high series resistance in admittance spectroscopy of kesterite solar cells. , 2013, , .		7

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55	Molecular beam epitaxy of Cu<inf>2</inf>ZnSnSe<inf>4</inf> thin films grown on GaAs(001). , 2013, , .		3
56	Lone conduction band in Cu2ZnSnSe4. Applied Physics Letters, 2012, 100, .	1.5	19
57	Feedback mechanism for the stability of the band gap of CuInSe<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>. Physical Review B, 2012, 86, .	1.1	29
58	The Consequences of Kesterite Equilibria for Efficient Solar Cells. Journal of the American Chemical Society, 2011, 133, 3320-3323.	6.6	457
59	Detection of a ZnSe secondary phase in coevaporated Cu2ZnSnSe4 thin films. Applied Physics Letters, 2011, 98, .	1.5	195
60	Route Toward High-Efficiency Single-Phase Cu$_{f 2}$ZnSn(S,Se)$_{f 4}$ Thin-Film Solar Cells: Model Experiments and Literature Review. IEEE Journal of Photovoltaics, 2011, 1, 200-206.	1.5	91
61	Making channeling visible: keV noble gas ion trails on Pt(111). New Journal of Physics, 2011, 13, 013002.	1.2	11
62	Sputtering at grazing ion incidence: Influence of adatom islands. Physical Review B, 2010, 82, .	1.1	6
63	Trails of Kilovolt Ions Created by Subsurface Channeling. Physical Review Letters, 2010, 104, 075501.	2.9	15
64	Coevaporation of Cu2ZnSnSe4 thin films. Applied Physics Letters, 2010, 97, .	1.5	137
65	Molecular structure of the<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mtext>H</mml:mtext><mml:mn>2</mml:mn></mml:msub><mml:mtext>O</mml:mtext></mml:mrow></mml:math> layer on Pt(111). Physical Review B, 2010, 82, .	1.1	64
66	Rapid Coarsening of Ion Beam Ripple Patterns by Defect Annihilation. Physical Review Letters, 2009, 102, 146103.	2.9	14
67	Grazing incidence ion erosion in the presence of adsorbates. New Journal of Physics, 2009, 11, 063011.	1.2	4
68	Competition of terrace and step-edge sputtering under oblique-incidence ion impact on a stepped Pt(111) surface. Nuclear Instruments & Methods in Physics Research B, 2009, 267, 2769-2773.	0.6	6
69	Influence of a single adatom on sputtering at grazing incidence â€“ A molecular-dynamics case study of 5keV Ar impact on Pt (111). Surface Science, 2009, 603, 320-325.	0.8	8
70	Desorption of H₂O from Flat and Stepped Pt(111). Journal of Physical Chemistry C, 2009, 113, 691-697.	1.5	35
71	Step-edge sputtering through grazing incidence ions investigated by scanning tunneling microscopy and molecular dynamics simulations. Physical Review B, 2008, 77, .	1.1	26
72	Spiral Growth and Step Edge Barriers. Physical Review Letters, 2008, 100, 035506.	2.9	19

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73	Mechanisms of pattern formation in grazing-incidence ion bombardment of Pt(111). Physical Review B, 2006, 73, .	1.1	47
74	Superior Regularity in Erosion Patterns by Planar Subsurface Channeling. Physical Review Letters, 2006, 96, 106103.	2.9	31
75	Nanoscale interfacial engineering enables highly stable and efficient perovskite photovoltaics. , 0, , .		0
76	Inhomogeneities in lead halide perovskite absorbers revealed by quantitative Photoluminescence Imaging. , 0, , .		0