Charlotte Platzer BjÃ¶rkman

List of Publications by Year
in descending order

111 papers	5,503 citations	87723 38 h-index	82410 72 g-index
114 all docs	114 docs citations	114 times ranked	3868 citing authors

#	Article	IF	Citations
1	Long term stability and recovery of 3ÂMeV proton irradiated Cu(In,Ga)Se2 and Cu2(Zn,Sn)(S,Se)4 thin film solar cells. Thin Solid Films, 2022, 741, 139023.	0.8	6
2	Record 1.1â€‰V Openâ€Circuit Voltage for Cu₂ZnGeS₄â€Based Thinâ€Film Solar Cells Using Atomic Layer Deposition Zn_{1â€<i>x</i>}Sn_{<i>x</i>}O_{<i>y</i>} Buffer Layers. Solar Rrl, 2022, 6, 2100837.	3.1	6
3	Gettering in PolySi/SiO<i>_x</i> Passivating Contacts Enables Si-Based Tandem Solar Cells with High Thermal and Contamination Resilience. ACS Applied Materials & Interfaces, 2022, 14, 14342-14358.	4.0	3
4	Surface/Interface Effects by Alkali Postdeposition Treatments of (Ag,Cu)(In,Ga)Se₂ Thin Film Solar Cells. ACS Applied Energy Materials, 2022, 5, 461-468.	2.5	6
5	Experimental and Theoretical Study of Stable and Metastable Phases in Sputtered CuInS₂. Advanced Science, 2022, 9, .	5.6	8
6	Investigation of AgGaSe₂ as a Wide Gap Solar Cell Absorber. ACS Applied Energy Materials, 2021, 4, 1805-1814.	2.5	24
7	Heavy alkali treatment of postâ€sulfurized Cu(In,Ga)Se₂ layers: Effect on absorber properties and solar cell performance. Solar Rrl, 2021, 5, 2100369.	3.1	0
8	Bandgap engineered Cu2ZnGexSn1âˆ'xS4 solar cells using an adhesive TiN back contact layer. Journal of Alloys and Compounds, 2021, 880, 160478.	2.8	8
9	Band Tails and Cuâ€“Zn Disorder in Cu₂ZnSnS₄ Solar Cells. ACS Applied Energy Materials, 2020, 3, 7520-7526.	2.5	26
10	Passivation of CdS/Cu₂ZnSnS₄ Interface from Surface Treatments of Kesteriteâ€Based Thinâ€Film Solar Cells. Physica Status Solidi (B): Basic Research, 2020, 257, 2000308.	0.7	9
11	Heavy Alkali Treatment of Postâ€Sulfurized Cu(In,Ga)Se₂ Layers: Effect on Absorber Properties and Solar Cell Performance. Solar Rrl, 2020, 4, 2000248.	3.1	15
12	Current-voltage and capacitance study of light-induced metastabilities in CuZnSnSSe thin film solar cells. Journal Physics D: Applied Physics, 2020, 53, 185108.	1.3	6
13	Prospects for defect engineering in Cu₂ZnSnS₄ solar absorber films. Journal of Materials Chemistry A, 2020, 8, 15864-15874.	5.2	15
14	Thermodynamic stability, phase separation and Ag grading in (Ag,Cu)(In,Ga)Se₂ solar absorbers. Journal of Materials Chemistry A, 2020, 8, 8740-8751.	5.2	29
15	Dynamic Impurity Redistributions in Kesterite Absorbers. Physica Status Solidi (B): Basic Research, 2020, 257, 2000062.	0.7	4
16	Back and front contacts in kesterite solar cells: state-of-the-art and open questions. JPhys Energy, 2019, 1, 044005.	2.3	57
17	Strong Interplay between Sodium and Oxygen in Kesterite Absorbers: Complex Formation, Incorporation, and Tailoring Depth Distributions. Advanced Energy Materials, 2019, 9, 1900740.	10.2	20
18	Effect of Cu Content on Postâ€Sulfurization of Cu(In,Ga)Se 2 Films and Corresponding Solar Cell Performance. Physica Status Solidi (A) Applications and Materials Science, 2019, 216, 1900472.	0.8	11

#	Article	IF	Citations
19	Germanium Incorporation in Cu₂ZnSnS₄ and Formation of a Snâ€“Ge Gradient. Physica Status Solidi (A) Applications and Materials Science, 2019, 216, 1900492.	0.8	17
20	Antimonyâ€Doped Tin Oxide as Transparent Back Contact in Cu 2 ZnSnS 4 Thinâ€Film Solar Cells. Physica Status Solidi (A) Applications and Materials Science, 2019, 216, 1900542.	0.8	3
21	Cadmium Free Cu₂ZnSnS₄ Solar Cells with 9.7% Efficiency. Advanced Energy Materials, 2019, 9, 1900439.	10.2	69
22	Microstructural Characterization of Sulfurization Effects in Cu(In,Ga)Se₂ Thin Film Solar Cells. Microscopy and Microanalysis, 2019, 25, 532-538.	0.2	12
23	Structural and Electronic Properties of Cu₂MnSnS₄ from Experiment and Firstâ€Principles Calculations. Physica Status Solidi (B): Basic Research, 2019, 256, 1800743.	0.7	25
24	Ion-beam based characterization of TiN back contact interlayers for CZTS(e) thin film solar cells. Nuclear Instruments & Methods in Physics Research B, 2019, 450, 262-266.	0.6	1
25	Sulfurization of Co-Evaporated Cu(In,Ga)Se₂ as a Postdeposition Treatment. IEEE Journal of Photovoltaics, 2018, 8, 604-610.	1.5	21
26	The effect of stoichiometry on Cu-Zn ordering kinetics in Cu2ZnSnS4 thin films. Journal of Applied Physics, 2018, 123, .	1.1	35
27	Cu2ZnSn(S,Se)4 from annealing of compound co-sputtered precursors â€“ Recent results and open questions. Solar Energy, 2018, 175, 84-93.	2.9	16
28	TiN Interlayers with Varied Thickness in Cu₂ZnSnS(e)₄ Thin Film Solar Cells: Effect on Na Diffusion, Back Contact Stability, and Performance. Physica Status Solidi (A) Applications and Materials Science, 2018, 215, 1800491.	0.8	13
29	Low temperature incorporation of selenium in Cu2ZnSnS4: Diffusion and nucleation. Thin Solid Films, 2018, 665, 159-163.	0.8	5
30	Selenium Inclusion in Cu₂ZnSn(S,Se)₄Solar Cell Absorber Precursors for Optimized Grain Growth. IEEE Journal of Photovoltaics, 2018, 8, 1132-1141.	1.5	6
31	Extreme radiation hard thin film CZTSSe solar cell. Solar Energy Materials and Solar Cells, 2018, 185, 16-20.	3.0	12
32	Absorption Coefficient of a Semiconductor Thin Film from Photoluminescence. Physical Review Applied, 2018, 9, .	1.5	28
33	Practical limitations to selenium annealing of compound co-sputtered Cu 2 ZnSnS 4 as a route to achieving sulfur-selenium graded solar cell absorbers. Thin Solid Films, 2017, 623, 110-115.	0.8	14
34	Optical properties of Cu2ZnSn(SxSe1-x)4 solar absorbers: Spectroscopic ellipsometry and <i>ab initio</i> calculations. Applied Physics Letters, 2017, 110, .	1.5	16
35	Investigation of the SnS/Cu₂ZnSnS₄ Interfaces in Kesterite Thin-Film Solar Cells. ACS Energy Letters, 2017, 2, 976-981.	8.8	40
36	On the Extraction of Doping Concentration From Capacitanceâ€“Voltage: A Cu2ZnSnS4 and ZnS Sandwich Structure. IEEE Journal of Photovoltaics, 2017, 7, 1421-1425.	1.5	2

#	ARTICLE	IF	CITATIONS
37	Kesterite compound semiconductors for thin film solar cells. Current Opinion in Green and Sustainable Chemistry, 2017, 4, 84-90.	3.2	22
38	Zincâ€Tinâ€Oxide Buffer Layer and Low Temperature Post Annealing Resulting in a 9.0% Efficient Cdâ€Free Cu₂ZnSnS₄ Solar Cell. Solar Rrl, 2017, 1, 1700001.	3.1	62
39	Evolution of Cu₂ZnSnS₄ during Non-Equilibrium Annealing with Quasi-in Situ Monitoring of Sulfur Partial Pressure. Chemistry of Materials, 2017, 29, 3713-3722.	3.2	40
40	Atomic Layer Deposition of Cubic and Orthorhombic Phase Tin Monosulfide. Chemistry of Materials, 2017, 29, 2969-2978.	3.2	64
41	Characterization of TiN back contact interlayers with varied thickness for Cu 2 ZnSn(S,Se) 4 thin film solar cells. Thin Solid Films, 2017, 639, 91-97.	0.8	15
42	Calculation of point defect concentration in Cu2ZnSnS4: Insights into the high-temperature equilibrium and quenching. Journal of Applied Physics, 2017, 122, .	1.1	5
43	Ga-grading and Solar Cell Capacitance Simulation of an industrial Cu(In,Ga)Se2 solar cell produced by an in-line vacuum, all-sputtering process. Thin Solid Films, 2017, 636, 367-374.	0.8	11
44	Surface modification through air annealing Cu2ZnSn(S,Se)4 absorbers. Thin Solid Films, 2017, 633, 118-121.	0.8	31
45	Mixed sulfur and selenium annealing study of compound-sputtered bilayer CU2ZnSnS4 / Cu2ZnSnSe4 precursors. , 2017, , .		0
46	Secondary ion mass spectrometry as a tool to study selenium gradient in Cu ₂ ZnSn(S,Se) ₄. Physica Status Solidi C: Current Topics in Solid State Physics, 2017, 14, 1600187.	0.8	5
47	Photoluminescence studies in epitaxial CZTSe thin films. Journal of Applied Physics, 2016, 120, 125701.	1.1	5
48	Evolution of Na-S(-O) compounds on Cu<inf>2</inf>ZnSnS<inf>4</inf> absorber surface and its effect on CdS growth. , 2016, , .		0
49	Order-disorder transition in B-type Cu2ZnSnS4 and limitations of ordering through thermal treatments. Applied Physics Letters, 2016, 108, .	1.5	46
50	Evolution of Naâ€"S(â€"O) Compounds on the Cu₂ZnSnS₄ Absorber Surface and Their Effects on CdS Thin Film Growth. ACS Applied Materials & Interfaces, 2016, 8, 18600-18607.	4.0	30
51	Optical properties of reactively sputtered Cu2ZnSnS4 solar absorbers determined by spectroscopic ellipsometry and spectrophotometry. Solar Energy Materials and Solar Cells, 2016, 149, 170-178.	3.0	35
52	Rear Surface Optimization of CZTS Solar Cells by Use of a Passivation Layer With Nanosized Point Openings. IEEE Journal of Photovoltaics, 2016, 6, 332-336.	1.5	55
53	Combining strong interface recombination with bandgap narrowing and short diffusion length in Cu2ZnSnS4 device modeling. Solar Energy Materials and Solar Cells, 2016, 144, 364-370.	3.0	52
54	Cuâ€"Zn disorder and band gap fluctuations in Cu₂ZnSn(S,Se)₄: Theoretical and experimental investigations. Physica Status Solidi (B): Basic Research, 2016, 253, 247-254.	0.7	173

#	Article	IF	Citations
55	Reduced interface recombination in Cu2ZnSnS4 solar cells with atomic layer deposition Zn1âˆ’<i>x</i>Sn<i>x</i>O<i>y</i> buffer layers. Applied Physics Letters, 2015, 107, .	1.5	99
56	Uniformity assessment of a 6-inch copper-zinc-tin-sulfide solar cell sputtered from a quaternary compound target. , 2015, , .		0
57	Potential of CuS cap to prevent decomposition of Cu₂ZnSnS₄ during annealing. Physica Status Solidi (A) Applications and Materials Science, 2015, 212, 2843-2849.	0.8	11
58	Influence of the Cu₂ZnSnS₄ absorber thickness on thin film solar cells. Physica Status Solidi (A) Applications and Materials Science, 2015, 212, 2889-2896.	0.8	37
59	CZTS solar cell device simulations with varying absorber thickness. , 2015, , .		5
60	Rear surface optimization of CZTS solar cells by use of a passivation layer with nano-sized point openings. , 2015, , .		2
61	Influence of hydrogen sulfide annealing on copperâ€“zincâ€“tinâ€“sulfide solar cells sputtered from a quaternary compound target. Thin Solid Films, 2015, 582, 233-238.	0.8	27
62	Interference effects in photoluminescence spectra of Cu2ZnSnS4 and Cu(In,Ga)Se2 thin films. Journal of Applied Physics, 2015, 118, .	1.1	45
63	Investigation of blister formation in sputtered Cu2ZnSnS4 absorbers for thin film solar cells. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2015, 33, 061201.	0.9	22
64	Photoluminescence investigation of Cu 2 ZnSnS 4 thin film solar cells. Thin Solid Films, 2015, 582, 146-150.	0.8	19
65	Reactively sputtered films in the Cu x Sâ€“ZnSâ€“SnS y system: From metastability to equilibrium. Thin Solid Films, 2015, 582, 208-214.	0.8	17
66	Optimizing Ga-profiles for highly efficient Cu(In, Ga)Se₂thin film solar cells in simple and complex defect models. Journal Physics D: Applied Physics, 2014, 47, 485104.	1.3	87
67	Rapid annealing of reactively sputtered precursors for Cu₂ZnSnS₄ solar cells. Progress in Photovoltaics: Research and Applications, 2014, 22, 10-17.	4.4	131
68	A low-temperature order-disorder transition in Cu2ZnSnS4 thin films. Applied Physics Letters, 2014, 104, .	1.5	315
69	Reactive sputtering of Cu2ZnSnS4 thin films â€" Target effects on the deposition process stability. Surface and Coatings Technology, 2014, 240, 281-285.	2.2	6
70	Zn(O, S) Buffer Layers and Thickness Variations of CdS Buffer for Cu $_{2}$ZnSnS$_{4}$ Solar Cells. IEEE Journal of Photovoltaics, 2014, 4, 465-469.	1.5	82
71	Effects of Back Contact Instability on Cu₂ZnSnS₄ Devices and Processes. Chemistry of Materials, 2013, 25, 3162-3171.	3.2	263
72	CuInxGa1âˆ’xSe2 as an efficient photocathode for solar hydrogen generation. International Journal of Hydrogen Energy, 2013, 38, 15027-15035.	3.8	52

#	Article	IF	Citations
73	Annealing behavior of reactively sputtered precursor films for Cu2ZnSnS4 solar cells. Thin Solid Films, 2013, 535, 22-26.	0.8	43
74	Diffusion of Fe and Na in co-evaporated Cu(In,Ga)Se2 devices on steel substrates. Thin Solid Films, 2013, 535, 188-192.	0.8	13
75	Secondary compound formation revealed by transmission electron microscopy at the Cu2ZnSnS4/Mo interface. Thin Solid Films, 2013, 535, 31-34.	0.8	38
76	Cu out-diffusion in kesteritesâ€”A transmission electron microscopy specimen preparation artifact. Applied Physics Letters, 2013, 102, .	1.5	22
77	The Influence of Absorber Thickness on Cu(In,Ga)Se$_{f 2}$ Solar Cells With Different Buffer Layers. IEEE Journal of Photovoltaics, 2013, 3, 1376-1382.	1.5	48
78	Inline Cu(In,Ga)Se$_{2}$ Co-evaporation for High-Efficiency Solar Cells and Modules. IEEE Journal of Photovoltaics, 2013, 3, 1100-1105.	1.5	148
79	Surface oxide on thin films of yttrium hydride studied by neutron reflectometry. Applied Physics Letters, 2012, 100, .	1.5	19
80	A Detrimental Reaction at the Molybdenum Back Contact in Cu₂ZnSn(S,Se)₄ Thin-Film Solar Cells. Journal of the American Chemical Society, 2012, 134, 19330-19333.	6.6	353
81	Reactive sputtering of precursors for Cu2ZnSnS4 thin film solar cells. Thin Solid Films, 2012, 520, 7093-7099.	0.8	55
82	MgyNi1âˆ’y(Hx) thin films deposited by magnetron co-sputtering. Journal of Alloys and Compounds, 2012, 527, 76-83.	2.8	12
83	Direct evidence of current blocking by ZnSe in Cu2ZnSnSe4 solar cells. Applied Physics Letters, 2012, 100, .	1.5	87
84	Electrical modeling of Cu(In,Ga)Se2cells with ALD-Zn1âˆ’xMgxO buffer layers. Journal of Applied Physics, 2012, 111, 014509.	1.1	15
85	Growth kinetics, properties, performance, and stability of atomic layer deposition Znâ€“Snâ€“O buffer layers for Cu(In,Ga)Se₂ solar cells. Progress in Photovoltaics: Research and Applications, 2012, 20, 883-891.	4.4	57
86	Influence of precursor sulfur content on film formation and compositional changes in Cu2ZnSnS4 films and solar cells. Solar Energy Materials and Solar Cells, 2012, 98, 110-117.	3.0	172
87	Chemical Insights into the Instability of Cu₂ZnSnS₄ Films during Annealing. Chemistry of Materials, 2011, 23, 4625-4633.	3.2	416
88	Transparent yttrium hydride thin films prepared by reactive sputtering. Journal of Alloys and Compounds, 2011, 509, S812-S816.	2.8	41
89	A new thin film photochromic material: Oxygen-containing yttrium hydride. Solar Energy Materials and Solar Cells, 2011, 95, 3596-3599.	3.0	90
90	Baseline model of graded-absorber Cu(In,Ga)Se2 solar cells applied to cells with Zn1âˆ’Mg O buffer layers. Thin Solid Films, 2011, 519, 7476-7480.	0.8	74

#	Article	IF	Citations
91	Experimental investigation of Cu(In1âˆ’x,Gax)Se2/Zn(O1âˆ’z,Sz) solar cell performance. Solar Energy Materials and Solar Cells, 2011, 95, 497-503.	3.0	39
92	Deposition of magnesium hydride thin films using radio frequency reactive sputtering. Thin Solid Films, 2011, 519, 5949-5954.	0.8	10
93	Buffer layers and transparent conducting oxides for chalcopyrite Cu(In,Ga)(S,Se)₂ based thin film photovoltaics: present status and current developments. Progress in Photovoltaics: Research and Applications, 2010, 18, 411-433.	4.4	323
94	Improved fill factor and open circuit voltage by crystalline selenium at the Cu(In,Ga)Se₂/buffer layer interface in thin film solar cells. Progress in Photovoltaics: Research and Applications, 2010, 18, 249-256.	4.4	24
95	Band gap engineering of ZnO for high efficiency CIGS based solar cells. Proceedings of SPIE, 2010, , .	0.8	5
96	Growth and characterization of ZnO-based buffer layers for CIGS solar cells. Proceedings of SPIE, 2010, , .	0.8	11
97	Measurements of photo-induced changes in the conduction properties of ALD-Zn_{1-<i>x</i>}Mg_{<i>x</i>}O thin films. Physica Scripta, 2010, T141, 014010.	1.2	7
98	Comparison of ZnS-based Buffer Layers by Chemical Bath Deposition and Atomic Layer Deposition. Materials Research Society Symposia Proceedings, 2009, 1165, 1.	0.1	8
99	Effects of CuIn0,5Ga0,5Se2 growth by isothermal and bithermal Cu-Poor/Rich/Poor sequence on solar cells properties. Materials Research Society Symposia Proceedings, 2009, 1165, 1.	0.1	1
100	Reactive Sputtering of Magnesium Hydride Thin Films for Photovoltaic Applications. Materials Research Society Symposia Proceedings, 2009, 1210, 1.	0.1	1
101	CuGaSe2 solar cells using atomic layer deposited Zn(O,S) and (Zn,Mg)O buffer layers. Thin Solid Films, 2009, 517, 2305-2308.	0.8	24
102	The effect of Zn_{<i>1â€x</i>}Mg_{<i>x</i>}O buffer layer deposition temperature on Cu(In,Ga)Se₂ solar cells: A study of the buffer/absorber interface. Progress in Photovoltaics: Research and Applications, 2009, 17, 115-125.	4.4	36
103	Temperatureâ€dependent currentâ€voltage and lightsoaking measurements on Cu(In,Ga)Se₂ solar cells with ALDâ€Zn_{1â€x}Mg_xO buffer layers. Progress in Photovoltaics: Research and Applications, 2009, 17, 460-469.	4.4	44
104	Atomic layer deposition of Zn1âˆ’xMgxO buffer layers for Cu(In,Ga)Se2 solar cells. Progress in Photovoltaics: Research and Applications, 2007, 15, 225-235.	4.4	104
105	Optimization of ALD-(Zn,Mg)O buffer layers and (Zn,Mg)O/Cu(In,Ga)Se2 interfaces for thin film solar cells. Thin Solid Films, 2007, 515, 6024-6027.	0.8	46
106	Strong Valence-Band Offset Bowing ofZnO1âˆ’xSxEnhancesp-Type Nitrogen Doping of ZnO-like Alloys. Physical Review Letters, 2006, 97, 146403.	2.9	245
107	Zn(O,S) buffer layers by atomic layer deposition in Cu(In,Ga)Se2 based thin film solar cells: Band alignment and sulfur gradient. Journal of Applied Physics, 2006, 100, 044506.	1.1	250
108	Determination of dominant recombination paths in Cu(In,Ga)Se2 thin-film solar cells with ALDâ€“ZnO buffer layers. Thin Solid Films, 2005, 480-481, 208-212.	0.8	39

#	Article	IF	Citations
109	The influence of buffer layer on the transient behavior of thin film chalcopyrite devices. Solar Energy Materials and Solar Cells, 2004, 84, 93-103.	3.0	49
110	Interface study of CuInSe2/ZnO and Cu(In,Ga)Se2/ZnO devices using ALD ZnO buffer layers. Thin Solid Films, 2003, 431-432, 321-325.	0.8	66
111	Postdeposition Sulfurization of CuInSe 2 Solar Absorbers by Employing Sacrificial CuInS 2 Precursor Layers. Physica Status Solidi (A) Applications and Materials Science, 0, , 2100441.	0.8	1