Roland Wuerz

List of Publications by Year
in descending order

44 papers	6,406 citations	201674 27 h-index	254184 43 g-index
44 all docs	44 docs citations	44 times ranked	4470 citing authors

#	Article	IF	Citations
1	New world record efficiency for Cu(In,Ga)Se₂ thinâ€film solar cells beyond 20%. Progress in Photovoltaics: Research and Applications, 2011, 19, 894-897.	8.1	1,888
2	Effects of heavy alkali elements in Cu(In,Ga)Se₂ solar cells with efficiencies up to 22.6%. Physica Status Solidi - Rapid Research Letters, 2016, 10, 583-586.	2.4	1,285
3	Properties of Cu(In,Ga)Se₂ solar cells with new record efficiencies up to 21.7%. Physica Status Solidi - Rapid Research Letters, 2015, 9, 28-31.	2.4	813
4	Compositional investigation of potassium doped Cu(In,Ga)Se₂ solar cells with efficiencies up to 20.8%. Physica Status Solidi - Rapid Research Letters, 2014, 8, 219-222.	2.4	483
5	Improved Photocurrent in Cu(In,Ga)Se₂ Solar Cells: From 20.8% to 21.7% Efficiency with CdS Buffer and 21.0% Cd-Free. IEEE Journal of Photovoltaics, 2015, 5, 1487-1491.	2.5	178
6	Thin-film solar cells exceeding 22% solar cell efficiency: An overview on CdTe-, Cu(In,Ga)Se2-, and perovskite-based materials. Applied Physics Reviews, 2018, 5, .	11.3	175
7	CIGS thin-film solar cells on steel substrates. Thin Solid Films, 2009, 517, 2415-2418.	1.8	135
8	Efficiency enhancement of Cu(In,Ga)Se₂ thinâ€film solar cells by a postâ€deposition treatment with potassium fluoride. Physica Status Solidi - Rapid Research Letters, 2013, 7, 631-634.	2.4	131
9	CIGS thin-film solar cells and modules on enamelled steel substrates. Solar Energy Materials and Solar Cells, 2012, 100, 132-137.	6.2	91
10	Investigation of the diffusion behavior of sodium in Cu(In,Ga)Se2 layers. Journal of Applied Physics, 2014, 115, .	2.5	90
11	Advances in Cost-Efficient Thin-Film Photovoltaics Based on Cu(In,Ga)Se2. Engineering, 2017, 3, 445-451.	6.7	79
12	Rubidium segregation at random grain boundaries in Cu(In,Ga)Se2 absorbers. Nano Energy, 2017, 42, 307-313.	16.0	70
13	Investigation of the effect of potassium on Cu(In,Ga)Se2 layers and solar cells. Thin Solid Films, 2015, 582, 27-30.	1.8	69
14	Atomic-scale characterization of the CdS/CuInSe2 interface in thin-film solar cells. Applied Physics Letters, 2011, 98, .	3.3	62
15	Comparative atom probe study of Cu(In,Ga)Se2 thin-film solar cells deposited on soda-lime glass and mild steel substrates. Journal of Applied Physics, 2011, 110, .	2.5	59
16	High-efficiency Cu(In,Ga)Se2 solar cells. Thin Solid Films, 2017, 633, 13-17.	1.8	58
17	Rubidium distribution at atomic scale in high efficient Cu(In,Ga)Se2 thin-film solar cells. Applied Physics Letters, 2018, 112, .	3.3	57
18	CIGS Cells and Modules With High Efficiency on Glass and Flexible Substrates. IEEE Journal of Photovoltaics, 2014, 4, 440-446.	2.5	56

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19	Exploring the p-n junction region in Cu(In,Ga)Se2 thin-film solar cells at the nanometer-scale. Applied Physics Letters, 2012, 101, .	3.3	51
20	Diffusion of Rb in polycrystalline Cu(In,Ga)Se2 layers and effect of Rb on solar cell parameters of Cu(In,Ga)Se2 thin-film solar cells. Journal of Applied Physics, 2018, 124, .	2.5	51
21	Atomic-scale distribution of impurities in CuInSe2-based thin-film solar cells. Ultramicroscopy, 2011, 111, 552-556.	1.9	46
22	Overall Distribution of Rubidium in Highly Efficient Cu(In,Ga)Se₂ Solar Cells. ACS Applied Materials & Interfaces, 2018, 10, 40592-40598.	8.0	44
23	Alternative sodium sources for Cu(In,Ga)Se2 thin-film solar cells on flexible substrates. Thin Solid Films, 2011, 519, 7268-7271.	1.8	43
24	Interconnection between Trait, Structure, and Composition of Grain Boundaries in Cu(In,Ga)Se₂ Thinâ€Film Solar Cells. Advanced Functional Materials, 2020, 30, 2001046.	14.9	39
25	Correlative transmission <scp>Kikuchi</scp> diffraction and atom probe tomography study of <scp>Cu(In,Ga)Se₂</scp> grain boundaries. Progress in Photovoltaics: Research and Applications, 2018, 26, 196-204.	8.1	36
26	Diffusion and incorporation of Cd in solar-grade Cu(In,Ga)Se2 layers. Applied Physics Letters, 2011, 99, 234101.	3.3	34
27	Influence of iron on the performance of CIGS thin-film solar cells. Solar Energy Materials and Solar Cells, 2014, 130, 107-117.	6.2	32
28	Grain Boundaries in Cu(In, Ga)Se₂: A Review of Compositionâ€"Electronic Property Relationships by Atom Probe Tomography and Correlative Microscopy. Advanced Functional Materials, 2021, 31, 2103119.	14.9	31
29	Evidence of Enhanced Carrier Collection in Cu(In,Ga)Se₂ Grain Boundaries: Correlation with Microstructure. ACS Applied Materials & Interfaces, 2018, 10, 14759-14766.	8.0	26
30	Revealing the origin of the beneficial effect of cesium in highly efficient Cu(In,Ga)Se2 solar cells. Nano Energy, 2020, 71, 104622.	16.0	25
31	Cd and Impurity Redistribution at the CdS/CIGS Interface After Annealing of CIGS-Based Solar Cells Resolved by Atom Probe Tomography. IEEE Journal of Photovoltaics, 2017, 7, 313-321.	2.5	19
32	Sputtering as a viable route for In₂S₃ buffer layer deposition in high efficiency Cu(In,Ga)Se₂ solar cells. Energy Science and Engineering, 2019, 7, 478-487.	4.0	19
33	Fe diffusion in polycrystalline Cu(In,Ga)Se2 layers for thin-film solar cells. Applied Physics Letters, 2010, 96, 244101.	3.3	18
34	Atom Probe Tomography Studies on the Cu(In,Ga)Se₂ Grain Boundaries. Journal of Visualized Experiments, 2013, , .	0.3	18
35	Role of elemental intermixing at the In2S3/CIGSe heterojunction deposited using reactive RF magnetron sputtering. Solar Energy Materials and Solar Cells, 2019, 195, 367-375.	6.2	18
36	Compositional gradients and impurity distributions in CuInSe₂ thinâ€film solar cells studied by atom probe tomography. Surface and Interface Analysis, 2012, 44, 1386-1388.	1.8	17

#	Article	IF	Citations
37	Dependence of the Magnitude of Persistent Photoconductivity on Sodium Content in Cu(In,Ga)Se₂ Solar Cells and Thin Films. IEEE Journal of Photovoltaics, 2020, 10, 1926-1930.	2.5	13
38	Evolution of the electrical characteristics of Cu(In,Ga)Se2 devices with sodium content. Journal of Applied Physics, 2020, 128, .	2.5	12
39	Effect of Cd diffusion on the electrical properties of the Cu(In,Ga)Se2 thin-film solar cell. Solar Energy Materials and Solar Cells, 2021, 224, 110989.	6.2	12
40	Effective module level encapsulation of CIGS solar cells with Al2O3 thin film grown by atomic layer deposition. Solar Energy Materials and Solar Cells, 2021, 222, 110914.	6.2	8
41	CIGS Thin Film Photovoltaicâ€"Approaches and Challenges. Springer Series in Optical Sciences, 2020, , 175-218.	0.7	5
42	Potassium versus Sodium in Cu(In,Ga)Se₂â€"Similarities and Differences in the Electrical Characteristics of Solar Cells and Thin Films after NaF or KF Postdeposition Treatment. Physica Status Solidi - Rapid Research Letters, 2022, 16, 2100459.	2.4	5
43	Impact of substrate temperature during NaF and KF post-deposition treatments on chemical and optoelectronic properties of alkali-free Cu(In,Ga)Se2 thin film solar cell absorbers. Thin Solid Films, 2021, 739, 138979.	1.8	3
44	A simulation study on the effect of sodium on grain boundary passivation in CIGS thin-film solar cells. , 2021, , .		2