

Roland Wuerz

List of Publications by Year in descending order

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44
papers

6,406
citations

201674

27
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254184

43
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44
times ranked

4470
citing authors

#	ARTICLE	IF	CITATIONS
1	Potassium versus Sodium in Cu(In,Ga)Se ₂ – Similarities and Differences in the Electrical Characteristics of Solar Cells and Thin Films after NaF or KF Postdeposition Treatment. <i>Physica Status Solidi - Rapid Research Letters</i> , 2022, 16, 2100459.	2.4	5
2	Effective module level encapsulation of CIGS solar cells with Al ₂ O ₃ thin film grown by atomic layer deposition. <i>Solar Energy Materials and Solar Cells</i> , 2021, 222, 110914.	6.2	8
3	A simulation study on the effect of sodium on grain boundary passivation in CIGS thin-film solar cells. , 2021, , .		2
4	Effect of Cd diffusion on the electrical properties of the Cu(In,Ga)Se ₂ thin-film solar cell. <i>Solar Energy Materials and Solar Cells</i> , 2021, 224, 110989.	6.2	12
5	Grain Boundaries in Cu(In, Ga)Se ₂ : A Review of Composition – Electronic Property Relationships by Atom Probe Tomography and Correlative Microscopy. <i>Advanced Functional Materials</i> , 2021, 31, 2103119.	14.9	31
6	Impact of substrate temperature during NaF and KF post-deposition treatments on chemical and optoelectronic properties of alkali-free Cu(In,Ga)Se ₂ thin film solar cell absorbers. <i>Thin Solid Films</i> , 2021, 739, 138979.	1.8	3
7	Dependence of the Magnitude of Persistent Photoconductivity on Sodium Content in Cu(In,Ga)Se ₂ Solar Cells and Thin Films. <i>IEEE Journal of Photovoltaics</i> , 2020, 10, 1926-1930.	2.5	13
8	Evolution of the electrical characteristics of Cu(In,Ga)Se ₂ devices with sodium content. <i>Journal of Applied Physics</i> , 2020, 128, .	2.5	12
9	Interconnection between Trait, Structure, and Composition of Grain Boundaries in Cu(In,Ga)Se ₂ Thin – Film Solar Cells. <i>Advanced Functional Materials</i> , 2020, 30, 2001046.	14.9	39
10	Revealing the origin of the beneficial effect of cesium in highly efficient Cu(In,Ga)Se ₂ solar cells. <i>Nano Energy</i> , 2020, 71, 104622.	16.0	25
11	CIGS Thin Film Photovoltaic – Approaches and Challenges. <i>Springer Series in Optical Sciences</i> , 2020, , 175-218.	0.7	5
12	Role of elemental intermixing at the In ₂ S ₃ /CIGSe heterojunction deposited using reactive RF magnetron sputtering. <i>Solar Energy Materials and Solar Cells</i> , 2019, 195, 367-375.	6.2	18
13	Sputtering as a viable route for In ₂ S ₃ buffer layer deposition in high efficiency Cu(In,Ga)Se ₂ solar cells. <i>Energy Science and Engineering</i> , 2019, 7, 478-487.	4.0	19
14	Rubidium distribution at atomic scale in high efficient Cu(In,Ga)Se ₂ thin-film solar cells. <i>Applied Physics Letters</i> , 2018, 112, .	3.3	57
15	Evidence of Enhanced Carrier Collection in Cu(In,Ga)Se ₂ Grain Boundaries: Correlation with Microstructure. <i>ACS Applied Materials & Interfaces</i> , 2018, 10, 14759-14766.	8.0	26
16	Correlative transmission Kikuchi diffraction and atom probe tomography study of Cu(In,Ga)Se ₂ grain boundaries. <i>Progress in Photovoltaics: Research and Applications</i> , 2018, 26, 196-204.	8.1	36
17	Overall Distribution of Rubidium in Highly Efficient Cu(In,Ga)Se ₂ Solar Cells. <i>ACS Applied Materials & Interfaces</i> , 2018, 10, 40592-40598.	8.0	44
18	Thin-film solar cells exceeding 22% solar cell efficiency: An overview on CdTe-, Cu(In,Ga)Se ₂ -, and perovskite-based materials. <i>Applied Physics Reviews</i> , 2018, 5, .	11.3	175

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19	Diffusion of Rb in polycrystalline Cu(In,Ga)Se ₂ layers and effect of Rb on solar cell parameters of Cu(In,Ga)Se ₂ thin-film solar cells. Journal of Applied Physics, 2018, 124, .	2.5	51
20	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
21	Advances in Cost-Efficient Thin-Film Photovoltaics Based on Cu(In,Ga)Se ₂ . Engineering, 2017, 3, 445-451.	6.7	79
22	Rubidium segregation at random grain boundaries in Cu(In,Ga)Se ₂ absorbers. Nano Energy, 2017, 42, 307-313.	16.0	70
23	High-efficiency Cu(In,Ga)Se ₂ solar cells. Thin Solid Films, 2017, 633, 13-17.	1.8	58
24	Effects of heavy alkali elements in Cu(In,Ga)Se ₂ solar cells with efficiencies up to 22.6%. Physica Status Solidi - Rapid Research Letters, 2016, 10, 583-586.	2.4	1,285
25	Investigation of the effect of potassium on Cu(In,Ga)Se ₂ layers and solar cells. Thin Solid Films, 2015, 582, 27-30.	1.8	69
26	Improved Photocurrent in Cu(In,Ga)Se ₂ 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
27	Properties of Cu(In,Ga)Se ₂ solar cells with new record efficiencies up to 21.7%. Physica Status Solidi - Rapid Research Letters, 2015, 9, 28-31.	2.4	813
28	Investigation of the diffusion behavior of sodium in Cu(In,Ga)Se ₂ layers. Journal of Applied Physics, 2014, 115, .	2.5	90
29	Compositional investigation of potassium doped Cu(In,Ga)Se ₂ solar cells with efficiencies up to 20.8%. Physica Status Solidi - Rapid Research Letters, 2014, 8, 219-222.	2.4	483
30	CIGS Cells and Modules With High Efficiency on Glass and Flexible Substrates. IEEE Journal of Photovoltaics, 2014, 4, 440-446.	2.5	56
31	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
32	Efficiency enhancement of Cu(In,Ga)Se ₂ thin-film solar cells by a post-deposition treatment with potassium fluoride. Physica Status Solidi - Rapid Research Letters, 2013, 7, 631-634.	2.4	131
33	Atom Probe Tomography Studies on the Cu(In,Ga)Se ₂ Grain Boundaries. Journal of Visualized Experiments, 2013, , .	0.3	18
34	Exploring the p-n junction region in Cu(In,Ga)Se ₂ thin-film solar cells at the nanometer-scale. Applied Physics Letters, 2012, 101, .	3.3	51
35	Compositional gradients and impurity distributions in CuInSe ₂ thin-film solar cells studied by atom probe tomography. Surface and Interface Analysis, 2012, 44, 1386-1388.	1.8	17
36	CIGS thin-film solar cells and modules on enamelled steel substrates. Solar Energy Materials and Solar Cells, 2012, 100, 132-137.	6.2	91

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37	Atomic-scale characterization of the CdS/CuInSe ₂ interface in thin-film solar cells. Applied Physics Letters, 2011, 98, .	3.3	62
38	Comparative atom probe study of Cu(In,Ga)Se ₂ thin-film solar cells deposited on soda-lime glass and mild steel substrates. Journal of Applied Physics, 2011, 110, .	2.5	59
39	Alternative sodium sources for Cu(In,Ga)Se ₂ thin-film solar cells on flexible substrates. Thin Solid Films, 2011, 519, 7268-7271.	1.8	43
40	Atomic-scale distribution of impurities in CuInSe ₂ -based thin-film solar cells. Ultramicroscopy, 2011, 111, 552-556.	1.9	46
41	New world record efficiency for Cu(In,Ga)Se ₂ thin-film solar cells beyond 20%. Progress in Photovoltaics: Research and Applications, 2011, 19, 894-897.	8.1	1,888
42	Diffusion and incorporation of Cd in solar-grade Cu(In,Ga)Se ₂ layers. Applied Physics Letters, 2011, 99, 234101.	3.3	34
43	Fe diffusion in polycrystalline Cu(In,Ga)Se ₂ layers for thin-film solar cells. Applied Physics Letters, 2010, 96, 244101.	3.3	18
44	CIGS thin-film solar cells on steel substrates. Thin Solid Films, 2009, 517, 2415-2418.	1.8	135