Michael E Stuckelberger

List of Publications by Year
in descending order

Source: https://exaly.com/author-pdf/6340687/publications.pdf

Version: 2024-02-01

78	1,967	20	43
papers	citations	h-index	g-index
		361045	253896

80	80	80	2873
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	The nanoscale distribution of copper and its influence on charge collection in CdTe solar cells. Nano Energy, 2022, 91, 106595.	8.2	16
2	Three-dimensional in situ imaging of single-grain growth in polycrystalline In2O3:Zr films. Communications Materials, 2022, 3, .	2.9	6
3	Development of an operando characterization stage for multi-modal synchrotron x-ray experiments. Review of Scientific Instruments, 2022, 93, .	0.6	1
4	Four-Fold Multi-Modal X-ray Microscopy Measurements of a Cu(In,Ga)Se2 Solar Cell. Materials, 2021, 14, 228.	1.3	12
5	Modelling Cross-section Current Collection in Cu-Doped CdTe using PyCDTS. , 2021, , .		0
6	Comparison of XBIC and LBIC measurements of a fully encapsulated c-Si solar cell. , 2021, , .		3
7	Role of Cation Ordering on Device Performance in (Ag,Cu)InSe₂ Solar Cells with KF Post-Deposition Treatment. ACS Applied Energy Materials, 2021, 4, 233-241.	2.5	2
8	Infrared Optical Properties: Hydrogen Bonding and Stability. , 2021, , 85-128.		0
9	Defect activation and annihilation in CIGS solar cells: an operando x-ray microscopy study. JPhys Energy, 2020, 2, 025001.	2.3	18
10	Effects of X-rays on Perovskite Solar Cells. Journal of Physical Chemistry C, 2020, 124, 17949-17956.	1.5	21
11	Towards Quantitative Interpretation of Fourier-Transform Photocurrent Spectroscopy on Thin-Film Solar Cells. Coatings, 2020, 10, 820.	1.2	4
12	Xâ€Ray Microscopy of Halide Perovskites: Techniques, Applications, and Prospects. Advanced Energy Materials, 2020, 10, 1903170.	10.2	49
13	PtyNAMi: ptychographic nano-analytical microscope. Journal of Applied Crystallography, 2020, 53, 957-971.	1.9	25
14	Quantifying the Elemental Distribution in Solar Cells from X-Ray Fluorescence Measurements with Multiple Detector Modules. , 2020, , .		3
15	Image Registration in Multi-Modal Scanning Microscopy: A Solar Cell Case Study. , 2020, , .		1
16	Mapping Current Collection in Cross Section: The case of Copper- doped CdTe Solar Cells. , 2020, , .		1
17	Cu-Local Structures and Their Relation with Nanoscale Electrical Performance in CdTe. , 2020, , .		2
18	Insight Into Metastable Defects in Flexible $ext{Cu}(ext{In}_{1-x}ext{Ga}_{x})ext{Se}_{2}$ Modules via X-ray Microscopy. , 2020, , .		0

#	Article	IF	Citations
19	Optical characterization of curved silicon PV modules with dichroic polymeric films. Solar Energy Materials and Solar Cells, 2019, 201, 110072.	3.0	0
20	Strain Mapping of CdTe Grains in Photovoltaic Devices. IEEE Journal of Photovoltaics, 2019, 9, 1790-1799.	1.5	20
21	Nano-scale Defect Analysis Through K-Means Clustering of CuInSe₂ Solar Cells with Ag and K Incorporation. , 2019, , .		1
22	X-ray Beam Induced Current Measurements for Multi-Modal X-ray Microscopy of Solar Cells. Journal of Visualized Experiments, 2019, , .	0.2	17
23	Multimodal X-ray imaging of grain-level properties and performance in a polycrystalline solar cell. Journal of Synchrotron Radiation, 2019, 26, 1316-1321.	1.0	20
24	Quantifying X-Ray Fluorescence Data Using MAPS. Journal of Visualized Experiments, 2018, , .	0.2	16
25	How Does CIGS Performance Depend on Temperature at the Microscale?. IEEE Journal of Photovoltaics, 2018, 8, 278-287.	1.5	13
26	Quantitative Mapping of Deflection and Stress on Encapsulated Silicon Solar Cells. IEEE Journal of Photovoltaics, 2018, 8, 189-195.	1.5	12
27	The Relationship between Chemical Flexibility and Nanoscale Charge Collection in Hybrid Halide Perovskites. Advanced Functional Materials, 2018, 28, 1706995.	7.8	28
28	What Limits Mobility in Hydrogenated Indium Oxide?. , 2018, , .		0
29	Design Concept for the In Situ Nanoprobe Beamline for the APS Upgrade. Microscopy and Microanalysis, 2018, 24, 194-195.	0.2	2
30	Nanoscale Growth Kinetics of Cu(In,Ga)Se₂ Absorbers. Journal of Physical Chemistry C, 2018, 122, 22897-22902.	1.5	6
31	Carrier scattering mechanisms limiting mobility in hydrogen-doped indium oxide. Journal of Applied Physics, 2018, 123, .	1.1	15
32	Charge Collection in Hybrid Perovskite Solar Cells: Relation to the Nanoscale Elemental Distribution. IEEE Journal of Photovoltaics, 2017, 7, 590-597.	1.5	45
33	Review: Progress in solar cells from hydrogenated amorphous silicon. Renewable and Sustainable Energy Reviews, 2017, 76, 1497-1523.	8.2	134
34	Engineering solar cells based on correlative X-ray microscopy. Journal of Materials Research, 2017, 32, 1825-1854.	1.2	61
35	Grain engineering: How nanoscale inhomogeneities can control charge collection in solar cells. Nano Energy, 2017, 32, 488-493.	8.2	40
36	Nano-XRF Analysis of Metal Impurities Distribution at PL Active Grain Boundaries During mc-Silicon Solar Cell Processing. IEEE Journal of Photovoltaics, 2017, 7, 244-249.	1.5	8

#	Article	IF	Citations
37	The Role of Water in the Reversible Optoelectronic Degradation of Hybrid Perovskites at Low Pressure. Journal of Physical Chemistry C, 2017, 121, 25659-25665.	1.5	19
38	Process Induced Deflection and Stress on Encapsulated Solar Cells. , 2017, , .		1
39	Machine Learning and Correlative Microscopy: How â€˜Big Dataâ€™ Techniques Can Benefit Thin Film Solar Cell Characterization. , 2017, , .		3
40	X-ray fluorescence at nanoscale resolution for multicomponent layered structures: a solar cell caseÂstudy. Journal of Synchrotron Radiation, 2017, 24, 288-295.	1.0	27
41	X-Ray Beam Induced Voltage: A Novel Technique for Electrical Nanocharacterization of Solar Cells. , 2017, , .		4
42	Low temperature spalling of silicon: A crack propagation study. , 2017, , .		2
43	Characterization of encapsulated solar cells by x-ray topography. , 2016, , .		4
44	Temperature dependence of hydrogenated amorphous silicon solar cell performances. Journal of Applied Physics, 2016, 119, .	1.1	27
45	Synchrotron x-ray characterization of alkali elements at grain boundaries in Cu(In, Ga)Se<inf>2</inf> solar cells. , 2016, , .		4
46	Growth of Cu(In, Ga)(S, Se)<inf>2</inf> films: Unravelling the mysteries by in-situ X-ray imaging. , 2016, , .		3
47	Elemental distribution and charge collection at the nanoscale on perovskite solar cells. , 2016, , .		8
48	Nanohole Structuring for Improved Performance of Hydrogenated Amorphous Silicon Photovoltaics. ACS Applied Materials & Interfaces, 2016, 8, 15169-15176.	4.0	15
49	Comparison of amorphous silicon absorber materials: Kinetics of lightâ€induced degradation. Progress in Photovoltaics: Research and Applications, 2016, 24, 446-457.	4.4	15
50	A Hybrid Barium Titanateâ€“Silicon Photonics Platform for Ultraefficient Electro-Optic Tuning. Journal of Lightwave Technology, 2016, 34, 1688-1693.	2.7	81
51	Comparison of LPCVD and sputter-etched ZnO layers applied as front electrodes in tandem thin-film silicon solar cells. Solar Energy Materials and Solar Cells, 2016, 145, 185-192.	3.0	11
52	Highly transparent modulated surface textured front electrodes for highâ€efficiency multijunction thinâ€film silicon solar cells. Progress in Photovoltaics: Research and Applications, 2015, 23, 949-963.	4.4	46
53	The boron-tailing myth in hydrogenated amorphous silicon solar cells. Applied Physics Letters, 2015, 107, 201112.	1.5	4
54	Development of an in situ temperature stage for synchrotron X-ray spectromicroscopy. Review of Scientific Instruments, 2015, 86, 113705.	0.6	10

#	Article	IF	Citations
55	Three-dimensional amorphous silicon solar cells on periodically ordered ZnO nanocolumns. Physica Status Solidi (A) Applications and Materials Science, 2015, 212, 1823-1829.	0.8	11
56	Correlation between grain composition and charge carrier collection in Cu(In,Ga)Se2 solar cells. , 2015, , .		9
57	Latest developments in the x-ray based characterization of thin-film solar cells. , 2015, , .		15
58	Recent advances and remaining challenges in thin-film silicon photovoltaic technology. Materials Today, 2015, 18, 378-384.	8.3	83
59	Complex Refractive Index Spectra of CH₃NH₃PbI₃ Perovskite Thin Films Determined by Spectroscopic Ellipsometry and Spectrophotometry. Journal of Physical Chemistry Letters, 2015, 6, 66-71.	2.1	491
60	Amorphous siliconâ€“germanium for triple and quadruple junction thin-film silicon based solar cells. Solar Energy Materials and Solar Cells, 2015, 133, 163-169.	3.0	60
61	Light-induced Voc increase and decrease in high-efficiency amorphous silicon solar cells. Journal of Applied Physics, 2014, 116, 094503.	1.1	25
62	Silicon oxide buffer layer at the pâ€“i interface in amorphous and microcrystalline silicon solar cells. Solar Energy Materials and Solar Cells, 2014, 120, 143-150.	3.0	43
63	Self-Patterned Nanoparticle Layers for Vertical Interconnects: Application in Tandem Solar Cells. Nano Letters, 2014, 14, 5085-5091.	4.5	17
64	Class AAA LED-Based Solar Simulator for Steady-State Measurements and Light Soaking. IEEE Journal of Photovoltaics, 2014, 4, 1282-1287.	1.5	33
65	2-D Periodic and Random-on-Periodic Front Textures for Tandem Thin-Film Silicon Solar Cells. IEEE Journal of Photovoltaics, 2014, 4, 1177-1184.	1.5	18
66	Thin-Film Silicon Triple-Junction Solar Cells on Highly Transparent Front Electrodes With Stabilized Efficiencies up to 12.8%. IEEE Journal of Photovoltaics, 2014, 4, 757-762.	1.5	30
67	The role of front and back electrodes in parasitic absorption in thin-film solar cells. EPJ Photovoltaics, 2014, 5, 50601.	0.8	4
68	Electrothermal Finite-Element Modeling for Defect Characterization in Thin-Film Silicon Solar Modules. IEEE Journal of Selected Topics in Quantum Electronics, 2013, 19, 1-8.	1.9	12
69	Electro-Optical Active Barium Titanate Thin Films in Silicon Photonics Devices. , 2013, , .		8
70	Comparison of amorphous silicon absorber materials: Light-induced degradation and solar cell efficiency. Journal of Applied Physics, 2013, 114, 154509.	1.1	50
71	Latest Developments of High-Efficiency Micromorph Tandem Silicon Solar Cells Implementing Innovative Substrate Materials and Improved Cell Design. IEEE Journal of Photovoltaics, 2012, 2, 236-240.	1.5	15
72	Light harvesting schemes for high efficiency thin film silicon solar cells. , 2012, , .		2

#	Article	IF	Citations
73	Charge collection in amorphous silicon solar cells: Cell analysis and simulation of high-efficiency pin devices. Journal of Non-Crystalline Solids, 2012, 358, 2187-2189.	1.5	5
74	Time evolution of surface defect states in hydrogenated amorphous silicon studied by photothermal and photocurrent spectroscopy and optical simulation. Journal of Non-Crystalline Solids, 2012, 358, 2035-2038.	1.5	17
75	Advanced nanostructured materials for pushing light trapping towards the Yablonovitch limit. , 2011, , .		0
76	Internal electric field and fill factor of amorphous silicon solar cells. , 2010, , .		14
77	Resistive interlayer for improved performance of thin film silicon solar cells on highly textured substrate. Applied Physics Letters, 2010, 96, .	1.5	116
78	Multi-modal characterization of kesterite thin-film solar cells: experimental results and numerical interpretation. Faraday Discussions, 0, 239, 160-179.	1.6	3