

Kristopher O Davis

List of Publications by Year in descending order

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90
papers

1,143
citations

567247

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93
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docs citations

93
times ranked

1106
citing authors

#	ARTICLE	IF	CITATIONS
1	High-Performance TiO ₂ -Based Electron-Selective Contacts for Crystalline Silicon Solar Cells. <i>Advanced Materials</i> , 2016, 28, 5891-5897.	21.0	300
2	Detailed investigation of TLM contact resistance measurements on crystalline silicon solar cells. <i>Solar Energy</i> , 2017, 151, 163-172.	6.1	63
3	Manufacturing metrology for c-Si module reliability and durability Part III: Module manufacturing. <i>Renewable and Sustainable Energy Reviews</i> , 2016, 59, 992-1016.	16.4	59
4	Silicon Heterojunction System Field Performance. <i>IEEE Journal of Photovoltaics</i> , 2018, 8, 177-182.	2.5	53
5	A copula-based Bayesian method for probabilistic solar power forecasting. <i>Solar Energy</i> , 2020, 196, 336-345.	6.1	52
6	Manufacturing metrology for c-Si module reliability and durability Part II: Cell manufacturing. <i>Renewable and Sustainable Energy Reviews</i> , 2016, 59, 225-252.	16.4	38
7	Manufacturing metrology for c-Si photovoltaic module reliability and durability, Part I: Feedstock, crystallization and wafering. <i>Renewable and Sustainable Energy Reviews</i> , 2016, 59, 84-106.	16.4	30
8	Tailoring the Optical Properties of APCVD Titanium Oxide Films for All-Oxide Multilayer Antireflection Coatings. <i>IEEE Journal of Photovoltaics</i> , 2015, 5, 1265-1270.	2.5	24
9	Investigation of the Internal Back Reflectance of Rear-Side Dielectric Stacks for c-Si Solar Cells. <i>IEEE Journal of Photovoltaics</i> , 2013, 3, 641-648.	2.5	22
10	Automated Defect Detection and Localization in Photovoltaic Cells Using Semantic Segmentation of Electroluminescence Images. <i>IEEE Journal of Photovoltaics</i> , 2022, 12, 53-61.	2.5	22
11	Simple and versatile UV-ozone oxide for silicon solar cell applications. <i>Solar Energy Materials and Solar Cells</i> , 2018, 185, 505-510.	6.2	21
12	Transmission Electron Microscopy Studies of Electron-Selective Titanium Oxide Contacts in Silicon Solar Cells. <i>Microscopy and Microanalysis</i> , 2017, 23, 900-904.	0.4	19
13	Characterization of front contact degradation in monocrystalline and multicrystalline silicon photovoltaic modules following damp heat exposure. <i>Solar Energy Materials and Solar Cells</i> , 2022, 235, 111468.	6.2	19
14	Spatial Atomic Layer Deposition of Molybdenum Oxide for Industrial Solar Cells. <i>Advanced Materials Interfaces</i> , 2020, 7, 2000895.	3.7	18
15	Crystalline Silicon Device Loss Analysis Through Spatially Resolved Quantum Efficiency Measurements. <i>IEEE Journal of Photovoltaics</i> , 2017, 7, 957-965.	2.5	17
16	Thermal Stability of Hole-Selective Tungsten Oxide: In Situ Transmission Electron Microscopy Study. <i>Scientific Reports</i> , 2018, 8, 12651.	3.3	16
17	A Comprehensive Methodology to Evaluate Losses and Process Variations in Silicon Solar Cell Manufacturing. <i>IEEE Journal of Photovoltaics</i> , 2019, 9, 1350-1359.	2.5	16
18	Influence of precursor gas ratio and firing on silicon surface passivation by APCVD aluminium oxide. <i>Physica Status Solidi - Rapid Research Letters</i> , 2013, 7, 942-945.	2.4	15

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19	A Comprehensive Evaluation of Contact Recombination and Contact Resistivity Losses in Industrial Silicon Solar Cells. IEEE Journal of Photovoltaics, 2020, 10, 1277-1282.	2.5	15
20	Analytic I_{sc} and V_{oc} Method and Power Loss Modes From Outdoor Time-Series I_{sc} Curves. IEEE Journal of Photovoltaics, 2020, 10, 1379-1388.	2.5	13
21	Impact of interconnection failure on photovoltaic module performance. Progress in Photovoltaics: Research and Applications, 2021, 29, 524-532.	8.1	13
22	A Combined Mechanochemical and Calcination Route to Mixed Cobalt Oxides for the Selective Catalytic Reduction of Nitrophenols. Molecules, 2020, 25, 89.	3.8	12
23	Degradation of copper-plated silicon solar cells with damp heat stress. Progress in Photovoltaics: Research and Applications, 2020, 28, 1175-1186.	8.1	12
24	Transmission electron microscopy based interface analysis of the origin of the variation in surface recombination of silicon for different surface preparation methods and passivation materials. Physica Status Solidi (A) Applications and Materials Science, 2017, 214, 1700286.	1.8	11
25	Transmission Electron Microscopy and Electron Energy-Loss Spectroscopy Studies of Hole-Selective Molybdenum Oxide Contacts in Silicon Solar Cells. ACS Applied Materials & Interfaces, 2019, 11, 43075-43080.	8.0	11
26	Improving the Passivation of Molybdenum Oxide Hole-Selective Contacts with 1-nm Hydrogenated Aluminum Oxide Films for Silicon Solar Cells. Physica Status Solidi (A) Applications and Materials Science, 2020, 217, 2000093.	1.8	11
27	Correlation of UV Fluorescence Images With Performance Loss of Field-Retrieved Photovoltaic Modules. IEEE Journal of Photovoltaics, 2021, 11, 926-935.	2.5	10
28	Multiscale Characterization of Photovoltaic Modules—Case Studies of Contact and Interconnect Degradation. IEEE Journal of Photovoltaics, 2022, 12, 62-72.	2.5	10
29	Quantitative analysis of crystalline silicon wafer PV modules by electroluminescence imaging. , 2016, , .		9
30	Influence of surface preparation and cleaning on the passivation of boron diffused silicon surfaces for high efficiency photovoltaics. Thin Solid Films, 2017, 636, 412-418.	1.8	9
31	Effective Antireflection and Surface Passivation of Silicon Using a SiO ₂ /a-TiO _x Film Stack. IEEE Journal of Photovoltaics, 2017, 7, 1603-1610.	2.5	9
32	Nondestructive Contact Resistivity Measurements on Solar Cells Using the Circular Transmission Line Method. IEEE Journal of Photovoltaics, 2019, 9, 1800-1805.	2.5	9
33	Effect of UV-Ozone Exposure on PCBM. IEEE Journal of Photovoltaics, 2012, 2, 148-153.	2.5	8
34	Dependence of solar cell contact resistivity measurements on sample preparation methods. , 2016, , .		8
35	Evaluation of Photovoltaic Module Performance Using Novel Data-driven I-V Feature Extraction and Suns-V _{OC} Determined from Outdoor Time-Series I-V Curves. , 2018, , .		8
36	Detecting loss mechanisms of c-Si PV modules in-situ I-V measurement. , 2016, , .		7

#	ARTICLE	IF	CITATIONS
37	Integration of spatially resolved ideality factor into local cell efficiency analysis with photoluminescence. Solar Energy, 2017, 158, 869-874.	6.1	7
38	Non-Destructive Contact Resistivity Measurements on Solar Cells Using the Circular Transmission Line Method. , 2017, , .		7
39	The Impact of Cracked Solar Cells on Solar Panel Energy Delivery. , 2020, , .		7
40	Electroluminescence Based Metrics to Assess the Impact of Cracks on Photovoltaic Module Performance. , 2018, , .		6
41	Incorporation of spatially-resolved current density measurements with photoluminescence for advanced parameter imaging of solar cells. Solar Energy Materials and Solar Cells, 2019, 199, 136-143.	6.2	6
42	In Situ Transmission Electron Microscopy Study of Molybdenum Oxide Contacts for Silicon Solar Cells. Physica Status Solidi (A) Applications and Materials Science, 2019, 216, 1800998.	1.8	6
43	Recombination and Resistive Losses of Transferred Foil Contacts for Silicon Heterojunction Solar Cells. Physica Status Solidi - Rapid Research Letters, 2020, 14, 2000368.	2.4	6
44	Phosphorus-doped polysilicon passivating contacts deposited by atmospheric pressure chemical vapor deposition. Journal Physics D: Applied Physics, 2021, 54, 384003.	2.8	6
45	Processâ€“Structureâ€“Properties Relationships of Passivating, Electronâ€“Selective Contacts Formed by Atmospheric Pressure Chemical Vapor Deposition of Phosphorusâ€“Doped Polysilicon. Physica Status Solidi - Rapid Research Letters, 2022, 16, .	2.4	6
46	Effects of solar resource variability on the future Florida transmission and distribution system. , 2012, , .		5
47	Improved control of the phosphorous surface concentration during inâ€“line diffusion of câ€“Si solar cells by APCVD. Physica Status Solidi - Rapid Research Letters, 2013, 7, 319-321.	2.4	5
48	Electroluminescence Excitation Spectroscopy: A Novel Approach to Non-Contact Quantum Efficiency Measurements. , 2017, , .		5
49	Detailed Performance Loss Analysis of Silicon Solar Cells using High-Throughput Metrology Methods. , 2018, , .		5
50	Thermally Stable Molybdenum Oxide Hole-Selective Contacts Deposited using Spatial Atomic Layer Deposition. , 2018, , .		5
51	Extracting Cell Level Characteristics from Photovoltaic Module Electroluminescence Images. , 2019, , .		5
52	Spatial Atomic Layer Deposition of Aluminum Oxide as a Passivating Hole Contact for Silicon Solar Cells. Physica Status Solidi (A) Applications and Materials Science, 2020, 217, 2000348.	1.8	5
53	Contact Resistivity and Sheet Resistance Measurements of Cells Extracted from Field-aged Modules. , 2019, , .		4
54	Patterning Indium Tin Oxide Using Self-Assembled Monolayers as Etch Resists for Photovoltaic and Display Devices. ACS Applied Nano Materials, 2022, 5, 6505-6512.	5.0	4

#	ARTICLE	IF	CITATIONS
55	Improving Silicon Surface Passivation with a Silicon Oxide Layer Grown via Ozonated Deionized Water. , 2017, , .		3
56	Engineered Interfaces Using Surface and Contact Passivation in Silicon Solar Cells. Electrochemical Society Interface, 2018, 27, 63-66.	0.4	3
57	EL and I-V Correlation for Degradation of PERC vs. Al-BSF Commercial Modules in Accelerated Exposures. , 2018, , .		3
58	TEM studies of hole-selective molybdenum oxide contacts in silicon heterojunction solar cells. Microscopy and Microanalysis, 2018, 24, 1508-1509.	0.4	3
59	Solder Bond Degradation of Fielded PV Modules: Correlation between Performance, Series Resistance and Electroluminescence Imaging. , 2019, , .		3
60	Solder Bond Degradation of Fielded PV Modules: Climate Dependence of Intermetallic Compound Growth. , 2019, , .		3
61	Characterization of the Metallization Induced Recombination Losses in Industrial Silicon Solar Cells. , 2019, , .		3
62	Effects of module performance and long-term degradation on economics and energy payback: case study of two different photovoltaic technologies. , 2009, , .		2
63	A review of manufacturing metrology for improved reliability of silicon photovoltaic modules. , 2014, , .		2
64	STEM-EELS Studies of the Local Structure and Coordination of Al ₂ O ₃ /Si interfaces in Si Solar Cells. Microscopy and Microanalysis, 2014, 20, 396-397.	0.4	2
65	A thorough way of mapping efficiency with photoluminescence. , 2015, , .		2
66	Considerations in the extraction of physically significant parameters for various c-Si cell architectures. , 2015, , .		2
67	TEM studies of TiO ₂ -based passivated contacts in c-Si solar cells. Microscopy and Microanalysis, 2016, 22, 1600-1601.	0.4	2
68	Effect of cracks on spatially resolved c-Si solar cell parameters. , 2016, , .		2
69	Photon Management for Silicon Solar Cells featuring Hole-Selective Molybdenum Oxide Rear Contacts: An Optical Simulation Study. , 2019, , .		2
70	Impact of Acetic Acid Exposure on the Screen-Printed Tellurite-Based Silver Contacts. , 2021, , .		2
71	Hyperspectral laser beam induced current system for solar cell characterization. , 2015, , .		1
72	Interfacial structure and passivation properties of Al ₂ O ₃ on Silicon. , 2016, , .		1

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73	Calculating the costs and benefits of metrology: A case study. , 2016, , .		1
74	ALD Aluminum Oxide as a Hole Selective Tunneling Contact for Crystalline Silicon Solar Cells. , 2017, , .		1
75	Degradation Analysis of PV Modules After Long-Term Exposure in Florida. , 2018, , .		1
76	Diversified Applications of UV-Ozone Oxide: Effective Surface Clean and High-Quality Passivation. , 2018, , .		1
77	Performance Evaluation of Commercially Relevant p-Type Silicon Cell Architectures. , 2019, , .		1
78	Raman microspectroscopy of a silicon solar cell. , 2021, , .		1
79	Localized Laser Printing and Sintering of Silver Nanoparticles for Silicon Solar Cell Metallization. , 2021, , .		1
80	Spatially Resolved Series Resistance Analysis of PV Modules using Electroluminescence and Photoluminescence Images. , 2021, , .		1
81	Self-assembled multifunctional nanostructures for surface passivation and photon management in silicon photovoltaics. Nanophotonics, 2021, 10, 4611-4621.	6.0	1
82	Impact of ozone-based cleaning on surface recombination with different passivation materials. , 2015, , .		0
83	Metal Induced Recombination Parameter Extraction using High Resolution Photoluminescence Imaging for Silicon Solar Cells. , 2018, , .		0
84	Outdoor Field Testing. , 2019, , 279-295.		0
85	TEM Study of MoOx/Ni and MoOx/Al Contacts for Silicon Solar Cells. Microscopy and Microanalysis, 2019, 25, 2116-2117.	0.4	0
86	Transmission Electron Microscopy Study of UV-ozone Cleaned Silicon Surfaces for Application in High Efficiency Photovoltaics. , 2019, , .		0
87	In Situ Transmission Electron Microscopy: A Powerful Tool for the Characterization of Carrier-Selective Contacts. , 2019, , .		0
88	Interrelation between Encapsulant Browning and Metallization Degradation: Experiments and Simulation. , 2021, , .		0
89	Raman Microspectroscopy of a Multi-Crystalline Silicon Solar Cell. IEEE Journal of Photovoltaics, 2022, 12, 230-237.	2.5	0
90	Copper Outdiffusion from Copper-Plated Solar Cell Contacts during Damp Heat Exposure. ACS Applied Materials & Interfaces, 2022, 14, 12149-12155.	8.0	0