Peter Hacke

List of Publications by Year
in descending order

92	2,019	257450 24	276875 41
papers	citations	h-index	g-index

93	93	93	1606
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	UVâ€induced degradation of highâ€efficiency silicon PV modules with different cell architectures. Progress in Photovoltaics: Research and Applications, 2023, 31, 36-51.	8.1	20
2	Potential-induced degradation of Cu(In,Ga)Se2 can occur by shunting the front i-ZnO and by damaging the p-n junction. Solar Energy, 2022, 232, 298-303.	6.1	4
3	Impact of illumination and encapsulant resistivity on polarizationâ€type potentialâ€induced degradation on nâ€PERT cells. Progress in Photovoltaics: Research and Applications, 2022, 30, 455-463.	8.1	7
4	Evaluation of the DC bus link capacitors and power transistor modules in the qualification testing of PV inverters. Progress in Photovoltaics: Research and Applications, 2021, 29, 675-683.	8.1	3
5	Advancing reliability assessments of photovoltaic modules and materials using combinedâ€accelerated stress testing. Progress in Photovoltaics: Research and Applications, 2021, 29, 64-82.	8.1	44
6	Towards validation of combined-accelerated stress testing through failure analysis of polyamide-based photovoltaic backsheets. Scientific Reports, 2021, 11, 2019.	3.3	15
7	Understanding interfacial chemistry of positive bias high-voltage degradation in photovoltaic modules. Solar Energy Materials and Solar Cells, 2021, 223, 110959.	6.2	13
8	Failure Analysis of a New Polyamide-Based Fluoropolymer-Free Backsheet After Combined-Accelerated Stress Testing. IEEE Journal of Photovoltaics, 2021, 11, 1197-1205.	2.5	7
9	In-Situ Measurement of Power Loss for Crystalline Silicon Modules Undergoing Thermal Cycling and Mechanical Loading Stress Testing. Energies, 2021, 14, 72.	3.1	6
10	Roundâ€robin weathering test of various polymeric backâ€sheets for PV modules with different ultraviolet irradiation and sample temperatures. Progress in Photovoltaics: Research and Applications, 2020, 28, 808-815.	8.1	3
11	Methods for In Situ Electroluminescence Imaging of Photovoltaic Modules Under Varying Environmental Conditions. IEEE Journal of Photovoltaics, 2020, 10, 1254-1261.	2.5	10
12	Destructive reverse bias pinning in perovskite/silicon tandem solar modules caused by perovskite hysteresis under dynamic shading. Sustainable Energy and Fuels, 2020, 4, 4067-4075.	4.9	16
13	Failure analysis of fieldâ€failed bypass diodes. Progress in Photovoltaics: Research and Applications, 2020, 28, 909-918.	8.1	18
14	Computational Modeling of Photovoltaic Mini-Modules Undergoing Accelerated Stress Testing. , 2020, , .		4
15	UV-Induced Degradation of High-Efficiency Solar Cells with Different Architectures. , 2020, , .		11
16	Evaluating Non-fluoropolymer-based Co-extruded Backsheets Using Combined-Accelerated Stress Testing and Materials Forensics. , 2020, , .		0
17	Interfacial Characterization of Positive Bias Voltage Degradation in PV Modules. , 2020, , .		0
18	Highly Accelerated UV Stress Testing for Transparent Flexible Frontsheets. , 2020, , .		0

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19	Towards Validation of Advanced Accelerated Stress Testing Protocols through Failure Analysis and Materials Characterization. , 2020, , .		1
20	Potential-Induced Degradation Depends on Leakage Current and Light/Electrical Bias in Cu(In,Ga)Se₂ Devices. IEEE Journal of Photovoltaics, 2019, 9, 1852-1856.	2.5	10
21	Investigating PID Shunting in Polycrystalline CIGS Devices via Multi-Scale, Multi-Technique Characterization. IEEE Journal of Photovoltaics, 2019, 9, 559-564.	2.5	12
22	Combined and Sequential Accelerated Stress Testing for Derisking Photovoltaic Modules. , 2019, , 279-313.		15
23	Transmission Electron Microscopy Study on Microstructure of Degraded CdTe Mini-Modules. IEEE Journal of Photovoltaics, 2019, 9, 893-897.	2.5	0
24	Understanding PV Polymer Backsheet Degradation through X-ray Scattering. , 2019, , .		4
25	Effects of Reactive Power on Photovoltaic Inverter Reliability and Lifetime. , 2019, , .		2
26	Correlation of advanced accelerated stress testing with polyamide-based photovoltaic backsheet field-failures. , 2019, , .		5
27	Reproducing the â€œFramingâ€•by a Sequential Stress Test. , 2019, , .		2
28	Comparison of PID Shunting in Polycrystalline and Single-Crystal Silicon Modules via Multi-Scale, Multi-Technique Characterization. , 2019, , .		1
29	Validation of Advanced Photovoltaic Module Materials and Processes by Combined-Accelerated Stress Testing (C-AST). , 2019, , .		6
30	Analysis of the Long-Term Performance Degradation of Crystalline Silicon Photovoltaic Modules in Tropical Climates. IEEE Journal of Photovoltaics, 2019, 9, 266-271.	2.5	34
31	Largeâ€Area Material and Junction Damage in câ€“Si Solar Cells by Potentialâ€Induced Degradation. Solar Rrl, 2019, 3, 1800303.	5.8	7
32	Analysis of Potential-Induced Degradation in Soda-Lime Glass and Borosilicate-Glass Cu(In,Ga)Se₂ Samples. IEEE Journal of Photovoltaics, 2019, 9, 331-338.	2.5	17
33	In-Situ Performance characterization of photovoltaic modules during combined-accelerated stress testing. , 2019, , .		2
34	Investigating PID shunting in polycrystalline silicon modules via multiscale, multitechnique characterization. Progress in Photovoltaics: Research and Applications, 2018, 26, 377-384.	8.1	26
35	Silicon Heterojunction System Field Performance. IEEE Journal of Photovoltaics, 2018, 8, 177-182.	2.5	53
36	A status review of photovoltaic power conversion equipment reliability, safety, and quality assurance protocols. Renewable and Sustainable Energy Reviews, 2018, 82, 1097-1112.	16.4	76

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37	Large-Area Material and Junction Damage in c-Si Solar Cells by Potential-Induced Degradation. , 2018, , .		0
38	Combined-Accelerated Stress Testing System for Photovoltaic Modules. , 2018, , .		23
39	Transmission Electron Microscopy Study on Degradation Mechanism of CdTe Thin-Film Solar Cells. , 2018, , .		0
40	Prediction of Potential-Induced Degradation Rate of Thin-Film Modules in the Field Based on Coulombs Transferred. , 2018, , .		1
41	Evaluation of the PID-s susceptibility of modules encapsulated in materials of varying resistivity. , 2018, , .		14
42	Electrochemical mechanisms of leakage-current-enhanced delamination and corrosion in Si photovoltaic modules. Solar Energy Materials and Solar Cells, 2018, 188, 273-279.	6.2	49
43	Investigation of the Impact of Illumination on the Polarization-Type Potential-Induced Degradation of Crystalline Silicon Photovoltaic Modules. IEEE Journal of Photovoltaics, 2018, 8, 1168-1173.	2.5	44
44	Potential-Induced Degradation of Cu(In,Ga)Se₂ Solar Cells: Alkali Metal Drift and Diffusion Effects. IEEE Journal of Photovoltaics, 2018, 8, 1337-1342.	2.5	25
45	Quantitative Electroluminescence Imaging Analysis for Performance Estimation of PID-Influenced PV Modules. IEEE Journal of Photovoltaics, 2018, 8, 1281-1288.	2.5	42
46	Cover Image, Volume 26, Issue 6. Progress in Photovoltaics: Research and Applications, 2018, 26, i-i.	8.1	0
47	Enabling reliability assessments of pre-commercial perovskite photovoltaics with lessons learned from industrial standards. Nature Energy, 2018, 3, 459-465.	39.5	123
48	Elucidating potentialâ€induced degradation in bifacial PERC silicon photovoltaic modules. Progress in Photovoltaics: Research and Applications, 2018, 26, 859-867.	8.1	55
49	Further Studies on the Effect of SiNx Refractive Index and Emitter Sheet Resistance on Potential-Induced Degradation. IEEE Journal of Photovoltaics, 2017, 7, 437-443.	2.5	6
50	In-Situ Characterization of Potential-Induced Degradation in Crystalline Silicon Photovoltaic Modules Through Dark Iâ€“V Measurements. IEEE Journal of Photovoltaics, 2017, 7, 104-109.	2.5	22
51	Potential-induced degradation in photovoltaic modules: a critical review. Energy and Environmental Science, 2017, 10, 43-68.	30.8	329
52	Process Induced Deflection and Stress on Encapsulated Solar Cells. , 2017, , .		1
53	Automatic Detection of Inactive Solar Cell Cracks in Electroluminescence Images. , 2017, , .		1
54	Notice of Removal Sodium accumulation at potential-induced degradation shunted areas in polycrystalline silicon modules. , 2017, , .		0

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55	Notice of Removal Elucidating PID degradation mechanisms and in-situ dark I-V monitoring for modeling degradation rate in CdTe thin-film modules. , 2017, , .		0
56	Large-Area Junction Damage in Potential-Induced Degradation of c-Si Solar Modules. , 2017, , .		0
57	Correction for Metastability in the Quantification of PID in Thin-Film Module Testing. , 2017, , .		0
58	Photoluminescence-imaging-based Evaluation of Non-uniform CdTe Degradation. , 2017, , .		1
59	Investigating PID Shunting in Polycrystalline Silicon Modules via Multi-Scale, Multi-Technique Characterization. , 2017, , .		3
60	Automatic detection and evaluation of solar cell micro-cracks in electroluminescence images using matched filters. , 2016, , .		20
61	Monitoring the recovery of c-Si modules from potential-induced degradation using suns-V<inf>oc</inf> curves. , 2016, , .		2
62	Assessing the causes of encapsulant delamination in PV modules. , 2016, , .		23
63	Development of Cu(In, Ga)Se<inf>2</inf> test coupons for potential induced degradation studies. , 2016, , .		3
64	Module degradation mechanisms studied by a multi-scale approach. , 2016, , .		7
65	Sodium Accumulation at Potential-Induced Degradation Shunted Areas in Polycrystalline Silicon Modules. IEEE Journal of Photovoltaics, 2016, 6, 1440-1445.	2.5	48
66	A novel technique for performing PID susceptibility screening during the solar cell fabrication process. , 2016, , .		3
67	Elucidating PID Degradation Mechanisms and In Situ Dark Iâ€“V Monitoring for Modeling Degradation Rate in CdTe Thin-Film Modules. IEEE Journal of Photovoltaics, 2016, 6, 1635-1640.	2.5	28
68	Fault identification in crystalline silicon PV modules by complementary analysis of the light and dark currentâ€“voltage characteristics. Progress in Photovoltaics: Research and Applications, 2016, 24, 517-532.	8.1	28
69	Moving toward quantifying reliability - the next step in a rapidly maturing PV industry. , 2015, , .		6
70	Ultraviolet radiation round-robin testing of various backsheets for photovoltaic modules. , 2015, , .		0
71	Interlaboratory Study to Determine Repeatability of the Damp-Heat Test Method for Potential-Induced Degradation and Polarization in Crystalline Silicon Photovoltaic Modules. IEEE Journal of Photovoltaics, 2015, 5, 94-101.	2.5	34
72	Quantifying solar cell cracks in photovoltaic modules by electroluminescence imaging. , 2015, , .		24

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73	Survey of potential-induced degradation in thin-film modules. Journal of Photonics for Energy, 2015, 5, 053083.	1.3	28
74	Quantum efficiency loss after PID stress: Wavelength dependence on cell surface and cell edge. , 2015, , .		1
75	Temperatureâ€dependency analysis and correction methods of in situ powerâ€loss estimation for crystalline silicon modules undergoing potentialâ€induced degradation stress testing. Progress in Photovoltaics: Research and Applications, 2015, 23, 1536-1549.	8.1	38
76	Accelerated Testing and Modeling of Potential-Induced Degradation as a Function of Temperature and Relative Humidity. IEEE Journal of Photovoltaics, 2015, 5, 1549-1553.	2.5	84
77	Properties of encapsulation materials and their relevance for recent field failures. , 2014, , .		14
78	Development of an IEC test for crystalline silicon modules to qualify their resistance to system voltage stress. Progress in Photovoltaics: Research and Applications, 2014, 22, 775-783.	8.1	46
79	Application of the terrestrial photovoltaic module accelerated test-to-failure protocol. , 2014, , .		8
80	Testing and Analysis for Lifetime Prediction of Crystalline Silicon PV Modules Undergoing Degradation by System Voltage Stress. IEEE Journal of Photovoltaics, 2013, 3, 246-253.	2.5	57
81	A framework for a comparative accelerated testing standard for PV modules. , 2013, , .		12
82	Acceleration factor determination for potential-induced degradation in crystalline silicon PV modules. , 2013, , .		15
83	Testing and analysis for lifetime prediction of crystalline silicon PV modules undergoing degradation by system voltage stress. , 2013, , .		1
84	Testing and analysis for lifetime prediction of crystalline silicon PV modules undergoing degradation by system voltage stress. , 2012, , .		4
85	Ensuring quality of PV modules. , 2011, , .		9
86	Test-to-Failure of crystalline silicon modules. , 2010, , .		47
87	Optimized emitter wrap-through cells for monolithic module assembly. , 2009, , .		9
88	Doping-dependent optical gain in GaN. Applied Physics Letters, 2000, 76, 2994-2996.	3.3	15
89	Influence of a piezoelectric field on the electron distribution in a double GaN/Al0.14Ga0.86N heterojunction. Applied Physics Letters, 1999, 74, 3866-3868.	3.3	25
90	Continuous Wave Operation at Room Temperature of InGaN Laser Diodes Fabricated on 4H-SiC Substrates. Japanese Journal of Applied Physics, 1999, 38, L481-L483.	1.5	24

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91	Electrical Transport Properties of p-GaN. Japanese Journal of Applied Physics, 1996, 35, L282-L284.	1.5	83
92	Characterization of the Shallow and Deep Levels in Si Doped GaN Grown by Metal-Organic Vapor Phase Epitaxy. Japanese Journal of Applied Physics, 1994, 33, 6443-6447.	1.5	80