

# Hagendorf Ch

## List of Publications by Year in descending order

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127  
papers

3,341  
citations

147801

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168389

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128  
all docs

128  
docs citations

128  
times ranked

2196  
citing authors

#	ARTICLE	IF	CITATIONS
1	Outdoor performance of anti-soiling coatings in various climates of Saudi Arabia. Solar Energy Materials and Solar Cells, 2022, 235, 111470.	6.2	13
2	Microscale Contact Formation by Laser Enhanced Contact Optimization. IEEE Journal of Photovoltaics, 2022, 12, 26-30.	2.5	8
3	Soiling induced nano-defects on aluminum telescope mirror coatings. Applied Optics, 2022, 61, 2727.	1.8	4
4	Abrasion testing of anti-reflective coatings under various conditions. Solar Energy Materials and Solar Cells, 2022, 240, 111732.	6.2	7
5	Evolution of Corrosive Potential-Induced Degradation at the Rear Side of Bifacial Passivated Emitter and Rear Solar Cells. Physica Status Solidi - Rapid Research Letters, 2022, 16, 2100519.	2.4	1
6	Quick test for reversible and irreversible PID of bifacial PERC solar cells. Solar Energy Materials and Solar Cells, 2021, 219, 110755.	6.2	21
7	Time-Resolved Investigation of Transient Field Effect Passivation States during Potential-Induced Degradation and Recovery of Bifacial Silicon Solar Cells. Solar Rrl, 2021, 5, 2100140.	5.8	8
8	Mitigation of soiling losses by smart heating and night tilting for ASC and standard PV module glass., 2021, , .		2
9	Potential Induced Degradation Studies with high Temporal Resolution Reveal Changes of Field Effect Passivation States at the Rear Side of Bifacial Silicon Solar Cells., 2021, , .		1
10	Analyses and Excess Oxygen Investigations by Scanning Transmission Electron Microscopy and Electron Energy Loss Spectroscopy at AlO <sub>x</sub> /Si Interfaces in Passivated Emitter and Rear Solar Cells. Physica Status Solidi (A) Applications and Materials Science, 2021, 218, 2100223.	1.8	1
11	Combined Soiling and Abrasion Testing of Antisoiling Coatings. IEEE Journal of Photovoltaics, 2020, 10, 243-249.	2.5	12
12	Loss analysis and optimization of PV module components and design to achieve higher energy yield and longer service life in desert regions. Applied Energy, 2020, 280, 116028.	10.1	20
13	Resilience of industrial PV module glass coatings to cleaning processes. Journal of Renewable and Sustainable Energy, 2020, 12, 053504.	2.0	13
14	Temperature-induced stoichiometric changes in thermally grown interfacial oxide in tunnel-oxide passivating contacts. Solar Energy Materials and Solar Cells, 2020, 218, 110713.	6.2	30
15	Rotational force test method for determination of particle adhesion <sup>2</sup> from a simplified model to realistic dusts. Journal of Renewable and Sustainable Energy, 2020, 12, .	2.0	6
16	On the transfer matrix of the supersymmetric eight-vertex model. II. Open boundary conditions. Journal of Statistical Mechanics: Theory and Experiment, 2020, 2020, 033104.	2.3	3
17	Impact of Samarium on the Growth of Epitaxial Bismuth Ferrite Thin Films. Physica Status Solidi (B): Basic Research, 2020, 257, 1900625.	1.5	6
18	Optimum PV module interconnection layout and mounting orientation to reduce inhomogeneous soiling losses in desert environments. Solar Energy, 2020, 203, 267-274.	6.1	18

#	ARTICLE	IF	CITATIONS
19	Root cause analysis on corrosive potential-induced degradation effects at the rear side of bifacial silicon PERC solar cells. Solar Energy Materials and Solar Cells, 2019, 201, 110062.	6.2	37
20	Microstructural Analysis of Local Silicon Corrosion of Bifacial Solar Cells as Root Cause of Potential-Induced Degradation at the Rear Side. Physica Status Solidi (A) Applications and Materials Science, 2019, 216, 1900334.	1.8	11
21	Evaluation of localized vertical current formation in carrier selective passivation layers of silicon solar cells by conductive AFM. AIP Conference Proceedings, 2019, , .	0.4	3
22	Advanced performance testing of anti-soiling coatings - Part II: Particle-size dependent analysis for physical understanding of dust removal processes and determination of adhesion forces. Solar Energy Materials and Solar Cells, 2019, 202, 110049.	6.2	27
23	Microstructural Analysis of Local Silicon Corrosion of Bifacial Solar Cells as Root Cause of Potential-Induced Degradation at the Rear Side. Physica Status Solidi (A) Applications and Materials Science, 2019, 216, 1970056.	1.8	4
24	Influence of soiling and moisture ingress on long term PID susceptibility of photovoltaic modules. AIP Conference Proceedings, 2019, , .	0.4	5
25	Potential-Induced Degradation of Bifacial PERC Solar Cells Under Illumination. IEEE Journal of Photovoltaics, 2019, 9, 1522-1525.	2.5	14
26	Particle size-dependent adhesion forces and wind removal efficiency of anti-soiling coatings on textured solar glasses. MRS Communications, 2019, 9, 964-970.	1.8	11
27	Advanced performance testing of anti-soiling coatings – Part I: Sequential laboratory test methodology covering the physics of natural soiling processes. Solar Energy Materials and Solar Cells, 2019, 202, 110048.	6.2	39
28	Techno-Economic Assessment of Soiling Losses and Mitigation Strategies for Solar Power Generation. Joule, 2019, 3, 2303-2321.	24.0	207
29	Local Corrosion of Silicon as Root Cause for Potential-Induced Degradation at the Rear Side of Bifacial PERC Solar Cells. Physica Status Solidi - Rapid Research Letters, 2019, 13, 1900163.	2.4	37
30	Quantification of abrasion-induced ARC transmission losses from reflection spectroscopy. , 2019, , .		11
31	Dew as a Detrimental Influencing Factor for Soiling of PV Modules. IEEE Journal of Photovoltaics, 2019, 9, 287-294.	2.5	68
32	Mobiler PrÃ¼faufbau fÃ¼r Solarkraftwerke. Nachrichten Aus Der Chemie, 2019, 67, 32-34.	0.0	0
33	High-performance p-type multicrystalline silicon (mc-Si): Its characterization and projected performance in PERC solar cells. Solar Energy, 2018, 175, 68-74.	6.1	17
34	Comparing Indoor and Outdoor Soiling Experiments for Different Glass Coatings and Microstructural Analysis of Particle Caking Processes. IEEE Journal of Photovoltaics, 2018, 8, 203-209.	2.5	43
35	On the transfer matrix of the supersymmetric eight-vertex model. I. Periodic boundary conditions. Journal of Statistical Mechanics: Theory and Experiment, 2018, 2018, 033106.	2.3	5
36	Fundamentals of soiling processes on photovoltaic modules. Renewable and Sustainable Energy Reviews, 2018, 98, 239-254.	16.4	185

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37	Comprehensive analysis of soiling and cementation processes on PV modules in Qatar. Solar Energy Materials and Solar Cells, 2018, 186, 309-323.	6.2	109
38	Defect formation under high temperature dark-annealing compared to elevated temperature light soaking. Solar Energy Materials and Solar Cells, 2018, 187, 194-198.	6.2	21
39	Resistor network modeling of microscopic transfer length measurements at bilayer systems for heterojunction solar cells. AIP Conference Proceedings, 2018, , .	0.4	0
40	Microstructural identification of Cu in solar cells sensitive to light-induced degradation. Physica Status Solidi - Rapid Research Letters, 2017, 11, 1600426.	2.4	14
41	Elemental evolution of the SiO <sub>x</sub> F <sub>y</sub> self-masking layer of plasma textured silicon and its modification during air exposure. Journal of Applied Physics, 2017, 121, .	2.5	9
42	Open spin chains with dynamic lattice supersymmetry. Journal of Physics A: Mathematical and Theoretical, 2017, 50, 185202.	2.1	13
43	Microstructural investigation of LID sensitive mc-PERC solar cells. Energy Procedia, 2017, 124, 759-766.	1.8	10
44	Search for Microstructural Defects as Nuclei for PID-Shunts in Silicon Solar Cells. , 2017, , .		6
45	Microstructure and recombination activity of grain boundaries from front and rear side during a LID-cycle of mc-PERC solar cells. , 2017, , .		0
46	A Comparison of PV Power Forecasts Using PVLib-Python. , 2017, , .		5
47	Metallized Boron-Doped Black Silicon Emitters For Front Contact Solar Cells. , 2017, , .		0
48	Symmetry classes of alternating sign matrices in a nineteen-vertex model. Journal of Statistical Mechanics: Theory and Experiment, 2016, 2016, 053111.	2.3	3
49	Layer-selective lift-off processing in a TCO/Si thin film system by ultra-short (ps, fs) laser pulses. , 2016, , .		0
50	Indirect ablation of Cu(In, Ga)Se <sub>2</sub> -layers by ns pulses with a wavelength of 1342 nm. , 2016, , .		0
51	Localization of Inorganic Impurities in Silicon Samples by Sequential Etching and ICP-MS Detection. Energy Procedia, 2016, 92, 392-398.	1.8	1
52	Investigations on the Formation of Stacking Fault-like PID-shunts. Energy Procedia, 2016, 92, 569-575.	1.8	35
53	Advanced Metal Contamination Analysis for High Efficiency Solar Cell Manufacturing. Energy Procedia, 2016, 92, 369-373.	1.8	4
54	Quantification of Void Defects on PERC Solar Cell Rear Contacts. Energy Procedia, 2016, 92, 37-41.	1.8	4

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55	Microstructural analysis of the cementation process during soiling on glass surfaces in arid and semi-arid climates. <i>Physica Status Solidi - Rapid Research Letters</i> , 2016, 10, 525-529.	2.4	57
56	Fs-laser micro machining for $\frac{1}{4}$ -TLM resistivity test structures in photovoltaic TCO multilayers. <i>Proceedings of SPIE</i> , 2016, , .	0.8	2
57	Intra-grain versus grain boundary degradation due to illumination and annealing behavior of multi-crystalline solar cells. <i>Solar Energy Materials and Solar Cells</i> , 2016, 158, 43-49.	6.2	47
58	Study of Pinhole Conductivity at Passivated Carrier-selected Contacts of Silicon Solar Cells. <i>Energy Procedia</i> , 2016, 92, 116-121.	1.8	52
59	Sodium Decoration of PID-s Crystal Defects after Corona Induced Degradation of Bare Silicon Solar Cells. <i>Energy Procedia</i> , 2015, 77, 397-401.	1.8	46
60	Microstructure of Void Formation Stages at Local Rear Contacts. <i>Energy Procedia</i> , 2015, 77, 701-706.	1.8	7
61	Nanoscope studies of 2D-extended defects in silicon that cause shunting of Si solar cells. <i>Physica Status Solidi C: Current Topics in Solid State Physics</i> , 2015, 12, 1103-1107.	0.8	14
62	Influence of Different Types of Recombination Active Defects on the Integral Electrical Properties of Multicrystalline Silicon Solar Cells. <i>Journal of Solar Energy</i> , 2015, 2015, 1-9.	0.8	7
63	Tunnel oxide passivated carrier-selective contacts based on ultra-thin SiO <sub>2</sub> layers grown by photo-oxidation or wet-chemical oxidation in ozonized water. , 2015, , .		20
64	Methods for resistivity and thickness measurements of high resistivity interfacial layers in photovoltaic TCO multilayers. , 2015, , .		2
65	The nineteen-vertex model and alternating sign matrices. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , 2015, 2015, P01017.	2.3	5
66	High-resolution structural investigation of passivated interfaces of silicon solar cells. <i>Solar Energy Materials and Solar Cells</i> , 2015, 142, 128-133.	6.2	25
67	Potential-induced Degradation at Interdigitated Back Contact Solar Cells. <i>Energy Procedia</i> , 2014, 55, 498-503.	1.8	63
68	Bethe ansatz solvability and supersymmetry of the M2 model of single fermions and pairs. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2014, 47, 485201.	2.1	4
69	High-resolution Optical and Electro-optical Microscopy for PV-modules. <i>Energy Procedia</i> , 2014, 55, 451-455.	1.8	2
70	Influence of Slim Rod Material Properties to the Siemens Feed Rod and the Float Zone Process. <i>Energy Procedia</i> , 2014, 55, 596-601.	1.8	2
71	Geometrical correction factors for finite-size probe tips in microscopic four-point-probe resistivity measurements. <i>Journal of Applied Physics</i> , 2014, 116, .	2.5	9
72	Simple Cleaning and Conditioning of Silicon Surfaces with UV/Ozone Sources. <i>Energy Procedia</i> , 2014, 55, 834-844.	1.8	78

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73	Sodium Outdiffusion from Stacking Faults as Root Cause for the Recovery Process of Potential-induced Degradation (PID). Energy Procedia, 2014, 55, 486-493.	1.8	81
74	Explanation of potential-induced degradation of the shunting type by Na decoration of stacking faults in Si solar cells. Solar Energy Materials and Solar Cells, 2014, 120, 383-389.	6.2	273
75	Silver nanoparticles cause snail trails in photovoltaic modules. Solar Energy Materials and Solar Cells, 2014, 121, 171-175.	6.2	40
76	Potential-Induced Degradation (PID): Introduction of a Novel Test Approach and Explanation of Increased Depletion Region Recombination. IEEE Journal of Photovoltaics, 2014, 4, 834-840.	2.5	109
77	Polymer foil additives trigger the formation of snail trails in photovoltaic modules. Solar Energy Materials and Solar Cells, 2014, 130, 64-70.	6.2	18
78	Influence of the feedstock purity on the solar cell efficiency. Solar Energy Materials and Solar Cells, 2014, 130, 668-672.	6.2	17
79	Polymer Foil Additives Trigger the Formation of Snail Trails in Photovoltaic Modules. Energy Procedia, 2014, 55, 494-497.	1.8	3
80	Microscopic Study of Defect Luminescence between 0.72 - 0.85 eV by Optical Microscopy. Microscopy Research, 2014, 02, 9-12.	0.3	2
81	Quantitative elemental analysis of photovoltaic Cu(In,Ga)Se <sub>2</sub> thin films using MCs <sup>+</sup> clusters. Surface and Interface Analysis, 2013, 45, 434-436.	1.8	17
82	Spin Chains with Dynamical Lattice Supersymmetry. Journal of Statistical Physics, 2013, 150, 609-657.	1.2	28
83	Determination of crystal grain orientations by optical microscopy at textured surfaces. Journal of Applied Physics, 2013, 114, .	2.5	10
84	Structural and Chemical Investigations of Adapted Siemens Feed Rods for an Optimized Float Zone Process. Energy Procedia, 2013, 38, 604-610.	1.8	3
85	Microstructural Analysis of Crystal Defects Leading to Potential-Induced Degradation (PID) of Si Solar Cells. Energy Procedia, 2013, 33, 76-83.	1.8	81
86	Snail Trails: Root Cause Analysis and Test Procedures. Energy Procedia, 2013, 38, 498-505.	1.8	55
87	The role of stacking faults for the formation of shunts during potential-induced degradation of crystalline Si solar cells. Physica Status Solidi - Rapid Research Letters, 2013, 7, 315-318.	2.4	90
88	A staggered fermion chain with supersymmetry on open intervals. Journal of Physics A: Mathematical and Theoretical, 2012, 45, 365201.	2.1	6
89	Quantitative elemental analysis of photovoltaic Cu(In,Ga)Se <sub>2</sub> thin films using MCs <sup>+</sup> clusters. , 2012, , .		1
90	Chemical and structural study of electrically passivating Al <sub>2</sub> O <sub>3</sub> /Si interfaces prepared by atomic layer deposition. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2012, 30, .	2.1	83

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91	Micro Structural Root Cause Analysis of Potential Induced Degradation in c-Si Solar Cells. Energy Procedia, 2012, 27, 1-6.	1.8	104
92	Shunt Analysis in Solar Cells - Electro-Optical Classification and High Resolution Defect Diagnostics. Energy Procedia, 2012, 27, 7-12.	1.8	9
93	Interface and Material Characterization of Thin ALD-Al <sub>2</sub> O <sub>3</sub> Layers on Crystalline Silicon. Energy Procedia, 2012, 27, 312-318.	1.8	77
94	On the mechanism of potential-induced degradation in crystalline silicon solar cells. Physica Status Solidi - Rapid Research Letters, 2012, 6, 331-333.	2.4	117
95	The Eight-Vertex Model and Lattice Supersymmetry. Journal of Statistical Physics, 2012, 146, 1122-1155.	1.2	21
96	Classification of recombination active defect structures in multicrystalline silicon solar cells. Energy Procedia, 2011, 8, 28-34.	1.8	16
97	Surface contaminations on silicon wafers – Monitoring of cleaning processes and specifying wafer quality. , 2011, , .		2
98	Investigation of modified p-n junctions in crystalline silicon on glass solar cells. Journal of Applied Physics, 2011, 109, 084513.	2.5	2
99	Chemical characterization of SiC and Si <sub>3</sub> N <sub>4</sub> precipitates in multicrystalline silicon by NIR microscopy and ToF-SIMS. Physica Status Solidi C: Current Topics in Solid State Physics, 2011, 8, 796-799.	0.8	1
100	Investigation of modified p-n junctions in CSG solar cells. Physica Status Solidi C: Current Topics in Solid State Physics, 2011, 8, 1418-1422.	0.8	0
101	Ground-state properties of a supersymmetric fermion chain. Journal of Statistical Mechanics: Theory and Experiment, 2011, 2011, P02014.	2.3	14
102	Cu diffusion-induced vacancy-like defects in freestanding GaN. New Journal of Physics, 2011, 13, 013029.	2.9	15
103	Classification of Recombination-Active Defects in Multicrystalline Solar Cells Made from Upgraded Metallurgical Grade (UMG) Silicon. Solid State Phenomena, 2011, 178-179, 88-93.	0.3	9
104	Exact and simple results for the XYZ and strongly interacting fermion chains. Journal of Physics A: Mathematical and Theoretical, 2010, 43, 402004.	2.1	20
105	The Gaussian Free Field and SLE <sub>4</sub> on Doubly Connected Domains. Journal of Statistical Physics, 2010, 140, 1-26.	1.2	33
106	The effect of boundaries on the spectrum of a one-dimensional random mass Dirac Hamiltonian. Journal of Physics A: Mathematical and Theoretical, 2010, 43, 025002.	2.1	12
107	A generalization of Schramm's formula for SLE <sub>2</sub> . Journal of Statistical Mechanics: Theory and Experiment, 2009, 2009, P02033.	2.3	4
108	One-dimensional classical diffusion in a random force field with weakly concentrated absorbers. Europhysics Letters, 2009, 86, 37011.	2.0	14

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109	SLE on Doubly-Connected Domains and the Winding of Loop-Erased Random Walks. Journal of Statistical Physics, 2008, 133, 231-254.	1.2	6
110	The growth of thin NiO films on Ag(001) studied by scanning tunneling microscopy and spectroscopy. Surface and Interface Analysis, 2008, 40, 1741-1746.	1.8	22
111	Breaking supersymmetry in a one-dimensional random Hamiltonian. Journal of Physics A: Mathematical and Theoretical, 2008, 41, 405302.	2.1	9
112	A growth model for RNA secondary structures. Journal of Statistical Mechanics: Theory and Experiment, 2008, 2008, P04008.	2.3	11
113	Time evolution of one-dimensional gapless models from a domain wall initial state: stochastic Loewner evolution continued?. Journal of Statistical Mechanics: Theory and Experiment, 2008, 2008, P07013.	2.3	44
114	Growth, atomic structure, and vibrational properties of MnO ultrathin films on Pt(111). Physical Review B, 2008, 77, .	3.2	44
115	Molecular structure and chiral separation in $\pi$ -sexithiophene ultrathin films on Au(111): Low-energy electron diffraction and scanning tunneling microscopy. Physical Review B, 2007, 75, .	3.2	56
116	Pressure-dependent Ni <sup>2+</sup> O phase transitions and Ni oxide formation on Pt(111): An in situ STM study at elevated temperatures. Physical Chemistry Chemical Physics, 2006, 8, 1575.	2.8	31
117	Scanning tunneling microscopy and spectroscopy of CoO precursor and oxide layers on Ag(001). Surface Science, 2004, 566-568, 68-73.	1.9	7
118	Scanning tunneling microscopy and spectroscopy studies on structural and electronic properties of thin films of Co oxides and oxide precursor states on Ag(001). Thin Solid Films, 2004, 464-465, 65-75.	1.8	21
119	Scanning tunneling microscopy, spectroscopy and tunneling-induced light emission on donor-doped BaTiO <sub>3</sub> . Surface Science, 2004, 566-568, 1211-1216.	1.9	0
120	Surface physical studies of barium titanate ceramics. Surface Science, 2003, 532-535, 501-507.	1.9	3
121	Scanning tunneling microscopy and spectroscopy investigation of the atomic and electronic structure of CoO islands on Ag(). Surface Science, 2003, 532-535, 346-350.	1.9	28
122	Real time scanning tunneling microscopy study of the initial stages of oxidation of Ni(111) between 400 and 470 K. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2000, 18, 1010-1015.	2.1	38
123	Surface physical studies of poly- and single-crystalline BaTiO <sub>3</sub> . Applied Surface Science, 1999, 142, 106-113.	6.1	12
124	Cathodoluminescence and Surface Physical Studies of Polycrystalline BaTiO <sub>3</sub> . Physica Status Solidi A, 1999, 173, 183-193.	1.7	8
125	A scanning tunneling microscopy, X-ray photoelectron spectroscopy and low-energy electron diffraction investigation of the BaTiO <sub>3</sub> (111) surface. Surface Science, 1999, 436, 121-130.	1.9	15
126	An STM, XPS and LEED investigation of the BaTiO <sub>3</sub> (111) surface. Surface Science, 1998, 402-404, 581-585.	1.9	24



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127	Rapid Determination of Organic Contaminations on Wafer Surfaces. Solid State Phenomena, 0, 219, 317-319.	0.3	1