Laura Bruckman

List of Publications by Year
in descending order

Source: https://exaly.com/author-pdf/7789377/publications.pdf

Version: 2024-02-01

72 papers	800 citations	623734 14 h-index	580821 25 g-index
73 all docs	73 docs citations	73 times ranked	667 citing authors

#	Article	IF	Citations
1	Environmental effects of stratospheric ozone depletion, UV radiation, and interactions with climate change: UNEP Environmental Effects Assessment Panel, Update 2021. Photochemical and Photobiological Sciences, 2022, 21, 275-301.	2.9	40
2	Motivation, benefits, and challenges for new photovoltaic material & module developments. Progress in Energy, 2022, 4, 032003.	10.9	14
3	Dimensional Stacking for Machine Learning in ToFâ€SIMS Analysis of Heterostructures. Advanced Materials Interfaces, 2021, 8, 2001648.	3.7	5
4	Measurement of crack length in width tapered beam experiments. Journal of Adhesion Science and Technology, 2021, 35, 357-374.	2.6	4
5	Environmental effects of stratospheric ozone depletion, UV radiation, and interactions with climate change: UNEP Environmental Effects Assessment Panel, Update 2020. Photochemical and Photobiological Sciences, 2021, 20, 1-67.	2.9	93
6	Degradation of PERC and Al-BSF Cells with UV Cutoff and White Variations of EVA and POE Encapsulant. , 2021, , .		2
7	Impact of surface passivation on UV stability of bifacial mc-Si PERC solar modules. , 2021, , .		0
8	Degradation Pathway Modeling of PV Minimodule Variants with Different Packaging Materials Under Indoor Accelerated Exposures. , 2021, , .		5
9	Degradation of Monofacial Double Glass and Glass Backsheet Photovoltaic Modules with Multiple Packaging Combinations. , 2021, , .		1
10	Toward Findable, Accessible, Interoperable and Reusable (FAIR) Photovoltaic System Time Series Data. , 2021, , .		3
11	Spatio-Temporal Modeling of Field Surveyed Backsheet Degradation. , 2021, , .		3
12	Characterizing photovoltaic backsheet adhesion degradation using the wedge and single cantilever beam tests, Part I: Field Modules. Solar Energy Materials and Solar Cells, 2020, 215, 110669.	6.2	9
13	Spatially resolved characterization of optical and recombination losses for different industrial silicon solar cell architectures. International Journal of Modern Physics B, 2020, 34, 2050204.	2.0	2
14	Direct nanoscale mapping of open circuit voltages at local back surface fields for PERC solar cells. Journal of Materials Science, 2020, 55, 11501-11511.	3.7	4
15	Impact of environmental variables on the degradation of photovoltaic components and perspectives for the reliability assessment methodology. Solar Energy, 2020, 199, 425-436.	6.1	41
16	Characterizing photovoltaic backsheet adhesion degradation using the wedge and single cantilever beam tests, Part II: Accelerated tests. Solar Energy Materials and Solar Cells, 2020, 211, 110524.	6.2	13
17	Learnings from developing an applied data science curricula for undergraduate and graduate students. MRS Advances, 2020, 5, 347-353.	0.9	1
18	Degradation of Bifacial PERC and Al-BSF Cell Minimodules with White and Clear Encapsulant Combinations in Modified Damp Heat. , 2020, , .		0

#	Article	IF	Citations
19	Evaluation and Augmentation of KÃ¶ppen-Geiger Climate Zone Based off of Real-World Satellite Weather Data. , 2020, , .		0
20	PVplr: R Package Implementation of Multiple Filters and Algorithms for Time-series Performance Loss Rate Analysis. , 2020, , .		1
21	Mechanistic Insights to Degradation of PERC Minimodules with Differentiated Packaging Materials & Module Architectures. , 2020, , .		1
22	Degradation Science and Pathways in PV Systems. , 2019, , 47-93.		4
23	Future Trend and Perspectives. , 2019, , 329-336.		0
24	Screening of heritage data for improving toughness of creep-resistant martensitic steels. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2019, 763, 138142.	5.6	12
25	Degradation Mechanism Detection in Photovoltaic Backsheets by Fully Convolutional Neural Network. Scientific Reports, 2019, 9, 16119.	3.3	7
26	Generalized Spatio-Temporal Model of Backsheet Degradation From Field Surveys of Photovoltaic Modules. IEEE Journal of Photovoltaics, 2019, 9, 1374-1381.	2.5	7
27	Mapping Multivariate Influence of Alloying Elements on Creep Behavior for Design of New Martensitic Steels. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2019, 50, 3106-3120.	2.2	28
28	Transformative Opportunities from Data Science and Big Data Analytics: Applied to Photovoltaics. Electrochemical Society Interface, 2019, 28, 57-61.	0.4	2
29	Temporal evolution and pathway models of poly(ethylene-terephthalate) degradation under multi-factor accelerated weathering exposures. PLoS ONE, 2019, 14, e0212258.	2.5	17
30	Reciprocity and spectral effects of the degradation of poly(ethyleneâ€terephthalate) under accelerated weathering exposures. Journal of Applied Polymer Science, 2019, 136, 47589.	2.6	5
31	Materials data analytics for 9% Cr family steel. Statistical Analysis and Data Mining, 2019, 12, 290-301.	2.8	9
32	Degradation of PERC and Al-BSF Photovoltaic Cells with Differentiated Mini-module Packaging Under Damp Heat Exposure. , 2019, , .		2
33	Open Circuit Voltages for PERC Local Back Surface Fields Directly Resolved at the Nanoscale. , 2019, , .		0
34	Characterizing the weathering induced degradation of Poly(ethylene-terephthalate) using PARAFAC modeling of fluorescenceÂspectra. Polymer Degradation and Stability, 2019, 161, 85-94.	5.8	12
35	Characterization of Real-world and Accelerated Exposed PV Module Backsheet Degradation. , 2019, , .		2
36	Differential degradation patterns of photovoltaic backsheets at the array level. Solar Energy, 2018, 163, 62-69.	6.1	42

#	Article	IF	Citations
37	Multivariate multiple regression models of poly(ethylene-terephthalate) film degradation under outdoor and multi-stressor accelerated weathering exposures. PLoS ONE, 2018, 13, e0209016.	2.5	16
38	An Automated Algorithm for Quantifying Cracks in Photovoltaic Backsheets Under Accelerated and Real-World Exposures. , 2018, , .		0
39	EL and I-V Correlation for Degradation of PERC vs. Al-BSF Commercial Modules in Accelerated Exposures. , 2018, , .		3
40	A non-destructive method for crack quantification in photovoltaic backsheets under accelerated and real-world exposures. Polymer Degradation and Stability, 2018, 153, 244-254.	5.8	14
41	A Nonrelational Data Warehouse for the Analysis of Field and Laboratory Data From Multiple Heterogeneous Photovoltaic Test Sites. IEEE Journal of Photovoltaics, 2017, 7, 230-236.	2.5	40
42	Photovoltaic Array Differential Backside Exposure Conditions: Backsheet Degradation and Site Design. , 2017, , .		2
43	Degradation Models of Photovoltaic Module Backsheets Exposed to Diverse Real World Condition. , 2017, , .		2
44	Screen Printed, Large Area Bifacial N-PERT cells with Tunnel Oxide Passivated Back Contact. , 2017, , .		3
45	Predictive models of poly(ethylene-terephthalate) film degradation under multi-factor accelerated weathering exposures. PLoS ONE, 2017, 12, e0177614.	2.5	26
46	Degradation of photovoltaic backsheet materials under multi-factor accelerated UV light exposures. , 2017, , .		2
47	Model development of degradation of PV modules backsheet with locating place of module. , 2017, , .		0
48	Degradation analysis of field-exposed photovoltaic modules with non-fluoropolymer-based backsheets. , 2017, , .		3
49	Characterizing the weathering induced changes in optical performance and properties of poly(ethylene-terephthalate) via MaPd:RTS spectroscopy. , 2017, , .		0
50	Degradation in PV encapsulant strength of attachment: An interlaboratory study towards a climate-specific test. , 2016, , .		12
51	Characterizing the weathering induced haze formation and gloss loss of poly(ethylene-terephthalate) via MaPd:RTS spectroscopy. , 2016, , .		1
52	Degradation of poly(ethylene-terephthalate) under accelerated weathering exposures. , 2015, , .		15
53	Degradation in PV encapsulation transmittance: An interlaboratory study towards a climate-specific test. , 2015, , .		18
54	Soiling of building envelope surfaces and its effect on solar reflectance â€“ Part III: Interlaboratory study of an accelerated aging method for roofing materials. Solar Energy Materials and Solar Cells, 2015, 143, 581-590.	6.2	14

#	Article	IF	Citations
55	Degradation science: Mesoscopic evolution and temporal analytics of photovoltaic energy materials. Current Opinion in Solid State and Materials Science, 2015, 19, 212-226.	11.5	51
56	Design Considerations and Measured Performance of Nontracked Mirror-Augmented Photovoltaics. IEEE Journal of Photovoltaics, 2015, 5, 917-925.	2.5	7
57	A data science approach to understanding photovoltaic module degradation. , 2015, , .		3
58	Statistical and domain analytics for informed study protocols. , 2013, , .		3
59	Object dependent properties of mirrors for PV applications studied under accelerated weathering protocols. , 2013, , .		0
60	Statistical and Domain Analytics Applied to PV Module Lifetime and Degradation Science. IEEE Access, 2013, 1, 384-403.	4.2	50
61	Degradation pathway models for photovoltaics module lifetime performance. , 2013, , .		6
62	Taxonomic Classification of Phytoplankton with Multivariate Optical Computing, Part I: Design and Theoretical Performance of Multivariate Optical Elements. Applied Spectroscopy, 2013, 67, 620-629.	2.2	10
63	Taxonomic Classification of Phytoplankton with Multivariate Optical Computing, Part II: Design and Experimental Protocol of a Shipboard Fluorescence Imaging Photometer. Applied Spectroscopy, 2013, 67, 630-639.	2.2	11
64	Taxonomic Classification of Phytoplankton with Multivariate Optical Computing, Part III: Demonstration. Applied Spectroscopy, 2013, 67, 640-647.	2.2	12
65	Photovoltaic lifetime and degradation science statistical pathway development: acrylic degradation. Proceedings of SPIE, 2013, , .	0.8	4
66	Durability of Materials in a Stress-Response Framework: Acrylic Materials for Photovoltaic Systems. Materials Research Society Symposia Proceedings, 2012, 1391, 107.	0.1	6
67	Photodegradation in a stress and response framework: poly(methyl methacrylate) for solar mirrors and lens. Journal of Photonics for Energy, 2012, 2, 022004.	1.3	31
68	Linear Discriminant Analysis of Single-Cell Fluorescence Excitation Spectra of Five Phytoplankton Species. Applied Spectroscopy, 2012, 66, 60-65.	2.2	16
69	Degradation of back surface acrylic mirrors for low concentration and mirror-augmented photovoltaics. Proceedings of SPIE, 2012, , .	0.8	3
70	Durability of acrylic: Stress and response characterization of materials for photovoltaics. , 2012, , .		8
71	Degradation of back surface acrylic mirrors: Implications for low concentration and mirror augmented photovoltaics. , 2012, , .		7
72	Construction, figures of merit, and testing of a single-cell fluorescence excitation spectroscopy system. Review of Scientific Instruments, 2010, 81, 013103.	1.3	7