AÃ¯cha Hessler-Wyser

List of Publications by Year
in descending order

50 papers	2,371 citations	279798 23 h-index	197818 49 g-index
53 all docs	53 docs citations	53 times ranked	3106 citing authors

#	Article	IF	Citations
1	22.5% efficient silicon heterojunction solar cell with molybdenum oxide hole collector. Applied Physics Letters, 2015, 107, .	3.3	360
2	Improved Optics in Monolithic Perovskite/Silicon Tandem Solar Cells with a Nanocrystalline Silicon Recombination Junction. Advanced Energy Materials, 2018, 8, 1701609.	19.5	192
3	A Review of RedOx Cycling of Solid Oxide Fuel Cells Anode. Membranes, 2012, 2, 585-664.	3.0	163
4	Lithium Fluoride Based Electron Contacts for High Efficiency nâ€Type Crystalline Silicon Solar Cells. Advanced Energy Materials, 2016, 6, 1600241.	19.5	134
5	RedOx study of anode-supported solid oxide fuel cell. Journal of Power Sources, 2009, 193, 55-64.	7.8	131
6	Silicon Filaments in Silicon Oxide for Nextâ€Generation Photovoltaics. Advanced Materials, 2012, 24, 1182-1186.	21.0	118
7	In Situ TEM Analysis of Organicâ€“Inorganic Metal-Halide Perovskite Solar Cells under Electrical Bias. Nano Letters, 2016, 16, 7013-7018.	9.1	115
8	A Low Resistance Calcium/Reduced Titania Passivated Contact for High Efficiency Crystalline Silicon Solar Cells. Advanced Energy Materials, 2017, 7, 1602606.	19.5	97
9	Three-dimensional microstructural changes in the Niâ€“YSZ solid oxide fuel cell anode during operation. Acta Materialia, 2012, 60, 3491-3500.	7.9	93
10	An Indiumâ€Free Anode for Largeâ€Area Flexible OLEDs: Defectâ€Free Transparent Conductive Zinc Tin Oxide. Advanced Functional Materials, 2016, 26, 384-392.	14.9	90
11	Cr-poisoning in (La,Sr)(Co,Fe)O3 cathodes after 10,000h SOFC stack testing. Journal of Power Sources, 2012, 211, 177-183.	7.8	65
12	Properties of interfaces in amorphous/crystalline silicon heterojunctions. Physica Status Solidi (A) Applications and Materials Science, 2010, 207, 651-656.	1.8	63
13	Strategies for Doped Nanocrystalline Silicon Integration in Silicon Heterojunction Solar Cells. IEEE Journal of Photovoltaics, 2016, 6, 1132-1140.	2.5	54
14	ITO/MoOx/a-Si:H(i) Hole-Selective Contacts for Silicon Heterojunction Solar Cells: Degradation Mechanisms and Cell Integration. IEEE Journal of Photovoltaics, 2017, 7, 1584-1590.	2.5	52
15	Air side contamination in Solid Oxide Fuel Cell stack testing. Journal of Power Sources, 2011, 196, 7225-7231.	7.8	51
16	Combined Cr and S poisoning in solid oxide fuel cell cathodes. Journal of Power Sources, 2012, 201, 112-120.	7.8	44
17	UV-nanoimprint lithography and large area roll-to-roll texturization with hyperbranched polymer nanocomposites for light-trapping applications. Solar Energy Materials and Solar Cells, 2012, 103, 147-156.	6.2	43
18	Analysis of hydrogen distribution and migration in fired passivating contacts (FPC). Solar Energy Materials and Solar Cells, 2019, 200, 110018.	6.2	38

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19	Design of experiment approach applied to reducing and oxidizing tolerance of anode supported solid oxide fuel cell. Part I: Microstructure optimization. Journal of Power Sources, 2011, 196, 7058-7069.	7.8	37
20	Sulfur as Pollutant Species on the Cathode Side of a SOFC System. ECS Transactions, 2009, 25, 2845-2852.	0.5	34
21	Enhancing the optoelectronic properties of amorphous zinc tin oxide by subgap defect passivation: A theoretical and experimental demonstration. Physical Review B, 2017, 95, .	3.2	31
22	In situ Reduction and Oxidation of Nickel from Solid Oxide Fuel Cells in a Transmission Electron Microscope. ECS Transactions, 2009, 25, 1985-1992.	0.5	29
23	Design of experiment approach applied to reducing and oxidizing tolerance of anode supported solid oxide fuel cell. Part II: Electrical, electrochemical and microstructural characterization of tape-cast cells. Journal of Power Sources, 2011, 196, 8909-8917.	7.8	23
24	Time-Resolved X-Ray Microtomography Observation of Intermetallic Formation Between Solid Fe and Liquid Al. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2013, 44, 4119-4123.	2.2	23
25	Zr-doped indium oxide electrodes: Annealing and thickness effects on microstructure and carrier transport. Physical Review Materials, 2019, 3, .	2.4	23
26	Rapid chromium quantification in solid oxide fuel cell cathodes. Scripta Materialia, 2010, 63, 895-898.	5.2	19
27	Cathode thickness-dependent tolerance to Cr-poisoning in solid oxide fuel cells. Electrochemistry Communications, 2010, 12, 1682-1685.	4.7	19
28	Nd-nickelate solid oxide fuel cell cathode sensitivity to Cr and Si contamination. Journal of Power Sources, 2012, 213, 223-228.	7.8	19
29	Increasing Polycrystalline Zinc Oxide Grain Size by Control of Film Preferential Orientation. Crystal Growth and Design, 2015, 15, 5886-5891.	3.0	19
30	Self-Patterned Nanoparticle Layers for Vertical Interconnects: Application in Tandem Solar Cells. Nano Letters, 2014, 14, 5085-5091.	9.1	17
31	Optical and structural analysis of solâ€“gel derived Cuâ€“Coâ€“Mnâ€“Si oxides for black selective solar nanocomposite multilayered coatings. Solar Energy Materials and Solar Cells, 2015, 143, 573-580.	6.2	17
32	Tuning the Optoelectronic Properties of ZnO:Al by Addition of Silica for Light Trapping in Highâ€Efficiency Crystalline Si Solar Cells. Advanced Materials Interfaces, 2016, 3, 1500462.	3.7	16
33	New Route for â€œCold-Passivationâ€•of Defects in Tin-Based Oxides. Journal of Physical Chemistry C, 2018, 122, 17612-17620.	3.1	15
34	Field test and electrode optimization of electrodynamic cleaning systems for solar panels. Progress in Photovoltaics: Research and Applications, 2019, 27, 1020-1033.	8.1	15
35	Amorphous gallium oxide grown by low-temperature PECVD. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2018, 36, 021518.	2.1	13
36	Solid-liquid interdiffusion (SLID) bonding in the Auâ€“In system: experimental study and 1D modelling. Journal of Micromechanics and Microengineering, 2015, 25, 125016.	2.6	12

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37	Zinc blendeâ€“wurtzite polytypism in nanocrystalline ZnO films. Acta Materialia, 2017, 130, 240-248.	7.9	12
38	Passivated contacts to n⁺ and p⁺ silicon based on amorphous silicon and thin dielectrics. , 2014, , .		10
39	A method for quantitative nanoscale imaging of dopant distributions using secondary ion mass spectrometry: an application example in silicon photovoltaics. MRS Communications, 2019, 9, 916-923.	1.8	10
40	Measurements of local chemistry and structure in Ni(O)â€“YSZ composites during reduction using energy-filtered environmental TEM. Chemical Communications, 2014, 50, 1808.	4.1	9
41	Rapid Preparation and SEM Microstructural Characterization of Nickelâ€“Yttriaâ€Stabilized Zirconia Cermets. Journal of the American Ceramic Society, 2008, 91, 3405-3407.	3.8	7
42	Direct Imaging of Dopant Distribution in Polycrystalline ZnO Films. ACS Applied Materials & Interfaces, 2017, 9, 7241-7248.	8.0	7
43	Passivating Polysilicon Recombination Junctions for Crystalline Silicon Solar Cells. Physica Status Solidi - Rapid Research Letters, 2021, 15, 2100272.	2.4	6
44	X-ray Imaging and Analysis of 3D Microstructural Changes in Aged Ni-YSZ Anode. ECS Transactions, 2011, 35, 1323-1327.	0.5	5
45	Multi-Scale Assessment of Cr Contamination Levels in SOFC Cathode Environment. ECS Transactions, 2011, 35, 2001-2008.	0.5	5
46	Quantifying competitive grain overgrowth in polycrystalline ZnO thin films. Acta Materialia, 2019, 173, 74-86.	7.9	5
47	Quantification of hydrogen in nanostructured hydrogenated passivating contacts for silicon photovoltaics combining SIMS-APT-TEM: A multiscale correlative approach. Applied Surface Science, 2021, 555, 149650.	6.1	4
48	On Potential Application of Coated Ferritic Stainless Steel Grades K41X and K44X in SOFC/HTE Interconnects. ECS Transactions, 2011, 35, 2481-2488.	0.5	3
49	Evaluation of secondary electron intensities for dopant profiling in ion implanted semiconductors: a correlative study combining SE, SIMS and ECV methods. Semiconductor Science and Technology, 2021, 36, 085003.	2.0	2
50	High performance amorphous Zn-Sn-O: impact of composition, microstructure, and thermal treatments in the optoelectronic properties. Proceedings of SPIE, 2017, , .	0.8	1