

Eun-Chel Cho

List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

96
papers

2,515
citations

22
h-index

49
g-index

108
ext. papers

2,895
ext. citations

3.3
avg, IF

4.48
L-index

#	Paper	IF	Citations
96	Mechanical fatigue life analysis of solar panels under cyclic load conditions for design improvement. <i>Journal of the Brazilian Society of Mechanical Sciences and Engineering</i> , 2022 , 44, 1	2	0
95	Numerical Simulation and Experiment of a High-Efficiency Tunnel Oxide Passivated Contact (TOPCon) Solar Cell Using a Crystalline Nanostructured Silicon-Based Layer. <i>Applied Sciences (Switzerland)</i> , 2022 , 12, 392	2.6	0
94	Synergistic enhancement in optoelectrical anisotropy of polymer film at the air-liquid interface: An insight into molecular weight distribution dependent polymer alignment. <i>Applied Surface Science</i> , 2022 , 593, 153413	6.7	0
93	High-efficiency hybrid solar cell with a nano-crystalline silicon oxide layer as an electron-selective contact. <i>Energy Conversion and Management</i> , 2021 , 252, 115033	10.6	4
92	Analysis of solder joint degradation and output power drop in silicon photovoltaic modules for reliability improvement. <i>Microelectronics Reliability</i> , 2021 , 127, 114399	1.2	0
91	A Review on Degradation of Silicon Photovoltaic Modules. <i>New & Renewable Energy</i> , 2021 , 17, 19-32	0.4	
90	Design of front emitter layer for improving efficiency in silicon heterojunction solar cells via numerical calculations. <i>Optik</i> , 2021 , 235, 166580	2.5	2
89	Improving passivation properties using a nano-crystalline silicon oxide layer for high-efficiency TOPCon cells. <i>Infrared Physics and Technology</i> , 2021 , 115, 103723	2.7	2
88	Investigation of EVA Accelerated Degradation Test for Silicon Photovoltaic Modules. <i>New & Renewable Energy</i> , 2021 , 17, 24-31	0.4	
87	Interface state density and barrier height improvement in ammonium sulfide treated Al ₂ O ₃ /Si interfaces. <i>Current Applied Physics</i> , 2021 , 26, 83-89	2.6	
86	Nanoscale SiO _x Tunnel Oxide Deposition Techniques and Their Influence on Cell Parameters of TOPCon Solar Cells. <i>Transactions on Electrical and Electronic Materials</i> , 2021 , 22, 557-566	1.7	4
85	Combination of ultraviolet exposure and thermal post-treatment to obtain high quality HfO ₂ thin films. <i>Ceramics International</i> , 2021 , 47, 9643-9650	5.1	1
84	Future Options for Lightweight Photovoltaic Modules in Electrical Passenger Cars. <i>Sustainability</i> , 2021 , 13, 2532	3.6	3
83	MoO _x work function, interface structure, and thermal stability analysis of ITO/MoO _x /a-Si(i) stacks for hole-selective silicon heterojunction solar cells. <i>Applied Surface Science</i> , 2021 , 553, 149552	6.7	4
82	A Review of the Degradation of Photovoltaic Modules for Life Expectancy. <i>Energies</i> , 2021 , 14, 4278	3.1	16
81	Corrosion, LID and LeTID in Silicon PV Modules and Solution Methods to Improve Reliability. <i>Transactions on Electrical and Electronic Materials</i> , 2021 , 22, 575-583	1.7	0
80	A study on the influence of the albedo spectrum on the bifacial GaAs/c-Si heterojunction tandem solar cell using computer modelling. <i>Solar Energy</i> , 2021 , 227, 490-496	6.8	0

79	Innovative passivating contact using quantum well at poly-Si/c-Si interface for crystalline silicon solar cells. <i>Chemical Engineering Journal</i> , 2021 , 423, 130239	14.7	4
78	Role of electron carrier selective contact layer of lithium fluoride films with wide bandgap and low work function for silicon heterojunction solar cells. <i>Materials Science in Semiconductor Processing</i> , 2021 , 134, 105982	4.3	1
77	A Novel Method to Achieve Selective Emitter Using Surface Morphology for PERC Silicon Solar Cells. <i>Energies</i> , 2020 , 13, 5207	3.1	0
76	Improving Retention Properties of ALD-AlxOy Charge Trapping Layer for Non-Volatile Memory Application. <i>ECS Journal of Solid State Science and Technology</i> , 2020 , 9, 043002	2	1
75	Investigation of asymmetric degradation in electrical properties of a-InGaZnO thin-film transistor arrays as a function of channel width-to-length aspect ratio. <i>Journal of Materials Science: Materials in Electronics</i> , 2020 , 31, 9826-9834	2.1	2
74	Surface Modifications for Light Trapping in Silicon Heterojunction Solar Cells: A Brief Review. <i>Transactions on Electrical and Electronic Materials</i> , 2020 , 21, 349-354	1.7	6
73	ITO: Zr bi-layers deposited by reactive O2 and Ar plasma with high work function for silicon heterojunction solar cells. <i>Current Applied Physics</i> , 2020 , 20, 994-1000	2.6	3
72	Influence of the Carrier Selective Front Contact Layer and Defect State of a-Si:H/c-Si Interface on the Rear Emitter Silicon Heterojunction Solar Cells. <i>Energies</i> , 2020 , 13, 2948	3.1	2
71	The light-trapping effect in various textured cover glass for enhancing the current density in silicon heterojunction solar cells. <i>Optics Communications</i> , 2020 , 467, 125657	2	0
70	Crystallization of Amorphous Silicon via Excimer Laser Annealing and Evaluation of Its Passivation Properties. <i>Energies</i> , 2020 , 13, 3335	3.1	2
69	Cd(Zn, S)Se quaternary thin films for electrochemical photovoltaic cell application. <i>International Journal of Energy Research</i> , 2020 , 44, 3737-3748	4.5	4
68	Review of Rear Emitter Silicon Heterojunction Solar Cells. <i>Transactions on Electrical and Electronic Materials</i> , 2020 , 21, 138-143	1.7	6
67	Simulation of Silicon Heterojunction Solar Cells for High Efficiency with Lithium Fluoride Electron Carrier Selective Layer. <i>Energies</i> , 2020 , 13, 1635	3.1	5
66	Monocrystalline silicon-based tandem configuration for solar-to-hydrogen conversion. <i>Inorganic Chemistry Communication</i> , 2020 , 116, 107926	3.1	3
65	Optimization of MIS type Non-Volatile Memory Device with Al-Doped HfO2 as Charge Trapping Layer. <i>ECS Journal of Solid State Science and Technology</i> , 2020 , 9, 075004	2	4
64	Influence of Ultra-Thin Ge ₂ S ₃ Passivation Layer on Structural, Interfacial, and Electrical Properties of HfO ₂ /Ge Metal-Oxide-Semiconductor Devices. <i>Journal of Nanoscience and Nanotechnology</i> , 2020 , 20, 1039-1045	1.3	2
63	Analysis of Negative Bias Illumination Stress Induced Effect on LTPS and a-IGZO TFT. <i>ECS Journal of Solid State Science and Technology</i> , 2020 , 9, 106005	2	1
62	Analysis of Cell to Module Loss Factor for Shingled PV Module. <i>New & Renewable Energy</i> , 2020 , 16, 1-12	0.4	2

61	Electrochemical supercapacitive studies of chemically deposited Co1-Ni S thin films. <i>Materials Science in Semiconductor Processing</i> , 2020 , 107, 104799	4.3	6
60	Computer modeling of the front surface field layer on the performance of the rear-emitter silicon heterojunction solar cell with 25 % efficiency. <i>Optik</i> , 2020 , 205, 164011	2.5	4
59	Structural and energy bandgap modification of chemically synthesized Cd(Zn, Cu)Se thin films. <i>Chemical Physics Letters</i> , 2020 , 739, 136990	2.5	2
58	Effects of tunneling oxide defect density and inter-diffused carrier concentration on carrier selective contact solar cell performance: Illumination and temperature effects. <i>Solar Energy</i> , 2020 , 211, 62-73	6.8	4
57	Effect of IGZO thin films fabricated by Pulsed-DC and RF sputtering on TFT characteristics. <i>Materials Science in Semiconductor Processing</i> , 2020 , 120, 105264	4.3	20
56	Electrical Characteristics of Bulk FinFET According to Spacer Length. <i>Electronics (Switzerland)</i> , 2020 , 9, 1283	2.6	2
55	Effect on the reduction of the barrier height in rear-emitter silicon heterojunction solar cells using Ar plasma-treated ITO film. <i>Current Applied Physics</i> , 2020 , 20, 219-225	2.6	7
54	Novel synthesis method for quaternary Cd(Cu, Zn)Se thin films and its characterizations. <i>Ceramics International</i> , 2020 , 46, 74-80	5.1	6
53	Effects of post-metallisation annealing on surface Interfacial and electrical properties of HfO ₂ /Ge stacks modified in situ with SiO ₂ interfacial layer. <i>Materials Research Express</i> , 2019 , 6, 086442	1.7	
52	Effects of post deposition annealing atmosphere on interfacial and electrical properties of HfO ₂ /Ge ₃ N ₄ gate stacks. <i>Thin Solid Films</i> , 2019 , 675, 16-22	2.2	9
51	Controlling a crystalline seed layer for microcrystalline silicon oxide window layer in rear emitter silicon heterojunction cells. <i>Infrared Physics and Technology</i> , 2019 , 102, 103037	2.7	6
50	2019 ,		1
49	Passivated emitter and rear contact (PERC) approach for small-scale laboratory industrial applications. <i>Solar Energy</i> , 2019 , 194, 167-176	6.8	2
48	Review on the Progress in Building Integrated Photovoltaic Materials and Module Technology. <i>New & Renewable Energy</i> , 2019 , 15, 47-54	0.4	2
47	High-efficiency Crystalline Silicon Solar Cells: A Review. <i>New & Renewable Energy</i> , 2019 , 15, 36-45	0.4	5
46	A study on Improvement of Electrical and Retention characteristics of Non-volatile Memory with Al ₂ O ₃ Insulator 2019 ,		1
45	Versatile Hole Carrier Selective MoO _x Contact for High Efficiency Silicon Heterojunction Solar Cells: A Review. <i>Transactions on Electrical and Electronic Materials</i> , 2019 , 20, 1-6	1.7	6
44	Molybdenum oxide: A superior hole extraction layer for replacing p-type hydrogenated amorphous silicon with high efficiency heterojunction Si solar cells. <i>Materials Research Bulletin</i> , 2019 , 110, 90-96	5.1	28

43	Ambient annealing influence on surface passivation and stoichiometric analysis of molybdenum oxide layer for carrier selective contact solar cells. <i>Materials Science in Semiconductor Processing</i> , 2019 , 91, 267-274	4.3	14
42	Influence of small size pyramid texturing on contact shading loss and performance analysis of Ag-screen printed mono crystalline silicon solar cells. <i>Materials Science in Semiconductor Processing</i> , 2018 , 85, 68-75	4.3	26
41	Advanced Light scattering through various textured glass surface morphologies in thin film silicon solar cells 2018 ,		1
40	Efficient light trapping for maskless large area randomly textured glass structures with various haze ratios in silicon thin film solar cells. <i>Solar Energy</i> , 2018 , 173, 1173-1180	6.8	10
39	21%-Efficient n-type Rear-junction PERT Solar Cell with Industrial Thin 156mm Cz Single Crystalline Silicon Wafer. <i>Energy Procedia</i> , 2015 , 77, 279-285	2.3	10
38	21%-efficient PERL Solar Cells with Plated Front Contacts on Industrial 156mm p-type Crystalline Silicon Wafers. <i>Energy Procedia</i> , 2014 , 55, 431-436	2.3	8
37	Copper metallization of silicon PERL solar cells: 21% cell efficiency and module assembly using conductive film 2014 ,		3
36	Light Capturing Film for power gain of silicon PV modules 2014 ,		3
35	Light Capturing Film on interconnect ribbon for current gain of crystalline silicon PV modules 2013 ,		4
34	Analysis of current gain by varying the spacing between cells in a PV module with quantum efficiency measurement 2012 ,		2
33	Structural and photoluminescence properties of superlattice structures consisting of Sn-rich SiO ₂ and stoichiometric SiO ₂ layers. <i>Thin Solid Films</i> , 2011 , 520, 641-645	2.2	4
32	Effects of phosphorus doping on structural and optical properties of silicon nanocrystals in a SiO ₂ matrix. <i>Thin Solid Films</i> , 2009 , 517, 5646-5652	2.2	55
31	n-Type silicon quantum dots and p-type crystalline silicon heteroface solar cells. <i>Solar Energy Materials and Solar Cells</i> , 2009 , 93, 684-690	6.4	109
30	Progress on hot carrier cells. <i>Solar Energy Materials and Solar Cells</i> , 2009 , 93, 713-719	6.4	83
29	Synthesis and characterization of boron-doped Si quantum dots for all-Si quantum dot tandem solar cells. <i>Solar Energy Materials and Solar Cells</i> , 2009 , 93, 273-279	6.4	112
28	Phosphorus-doped silicon quantum dots for all-silicon quantum dot tandem solar cells. <i>Solar Energy Materials and Solar Cells</i> , 2009 , 93, 1524-1530	6.4	71
27	Ultrafast transient grating spectroscopy in silicon quantum dots. <i>Journal of Nanoscience and Nanotechnology</i> , 2009 , 9, 4575-9	1.3	2
26	Effects of boron doping on the structural and optical properties of silicon nanocrystals in a silicon dioxide matrix. <i>Nanotechnology</i> , 2008 , 19, 424019	3.4	66

25	Structural characterization of annealed Si _{1-x} C _x /SiC multilayers targeting formation of Si nanocrystals in a SiC matrix. <i>Journal of Applied Physics</i> , 2008 , 103, 083544	2.5	73
24	Fabrication of multilayered Ge nanocrystals by magnetron sputtering and annealing. <i>Nanotechnology</i> , 2008 , 19, 455611	3.4	33
23	Silicon quantum dot/crystalline silicon solar cells. <i>Nanotechnology</i> , 2008 , 19, 245201	3.4	243
22	Study of silicon quantum dot p-n or p-i-n junction devices on c-Si substrate. <i>Optoelectronic and Microelectronic Materials and Devices (COMMAD), Conference on</i> , 2008 ,		3
21	Structural, electrical and photovoltaic characterization of Si nanocrystals embedded SiC matrix and Si nanocrystals/c-Si heterojunction devices. <i>Solar Energy Materials and Solar Cells</i> , 2008 , 92, 474-481	6.4	112
20	Influence of EDTA concentration on the structure and properties of SnS films prepared by electro-deposition. <i>Surface and Coatings Technology</i> , 2008 , 202, 6070-6074	4.4	41
19	Evolution of Si (and SiC) nanocrystal precipitation in SiC matrix. <i>Thin Solid Films</i> , 2008 , 516, 3824-3830	2.2	65
18	Silicon quantum dot nanostructures for tandem photovoltaic cells. <i>Thin Solid Films</i> , 2008 , 516, 6748-6756.	2	332
17	Fabrication of multilayered Ge nanocrystals embedded in SiO _x GeN _y films. <i>Applied Surface Science</i> , 2008 , 254, 7527-7530	6.7	0
16	Design Analysis of Crystalline Silicon Solar Cell Using 1-Dimensional Modelling. <i>Korean Journal of Materials Research</i> , 2008 , 18, 571-576	0.2	
15	Fabrication and electrical characteristics of Si nanocrystal/c-Si heterojunctions. <i>Applied Physics Letters</i> , 2007 , 91, 123510	3.4	44
14	Silicon Quantum Dots in a Dielectric Matrix for All-Silicon Tandem Solar Cells. <i>Advances in OptoElectronics</i> , 2007 , 2007, 1-11	0.5	84
13	Fabrication and characterization of tin-based nanocrystals. <i>Journal of Applied Physics</i> , 2007 , 102, 114304.	2.5	14
12	Excitation dependence of photoluminescence in silicon quantum dots. <i>New Journal of Physics</i> , 2007 , 9, 337-337	2.9	16
11	Ultrafast carrier dynamics of Si quantum dots embedded in SiN matrix. <i>Applied Physics Letters</i> , 2007 , 90, 081105	3.4	11
10	Photoluminescence in crystalline silicon quantum wells. <i>Journal of Applied Physics</i> , 2007 , 101, 024321	2.5	13
9	Fabrication and characterization of Si nanocrystals in SiC matrix produced by magnetron cosputtering. <i>Journal of Vacuum Science & Technology B</i> , 2007 , 25, 1327		43
8	Toward a High Efficiency Silicon Solar Cells-Simplified Cell Processing using Paste Contained Phosphorous Compounds 2006 ,		1

7	Effects of silicon nanocrystallite density on the Raman-scattering spectra of silicon quantum dot superlattices 2006 ,		2
6	Silicon nanostructures for third generation photovoltaic solar cells. <i>Thin Solid Films</i> , 2006 , 511-512, 654-662		477
5	Time-resolved and time-integrated photoluminescence analysis of state filling and quantum confinement of silicon quantum dots. <i>Journal of Applied Physics</i> , 2005 , 97, 013501	2.5	26
4	Clear quantum-confined luminescence from crystalline silicon/SiO ₂ single quantum wells. <i>Applied Physics Letters</i> , 2004 , 84, 2286-2288	3.4	43
3	Atomistic structure of SiO ₂ /Si/SiO ₂ quantum wells with an apparently crystalline silicon oxide. <i>Journal of Applied Physics</i> , 2004 , 96, 3211-3216	2.5	11
2	Resonant tunneling through defects in an insulator: Modeling and solar cell applications. <i>Journal of Applied Physics</i> , 2004 , 96, 5006-5012	2.5	28
1	Antireflection and surface passivation behaviour of SiO ₂ /Si/SiO ₂ quantum wells on silicon. <i>Solar Energy Materials and Solar Cells</i> , 2002 , 74, 147-154	6.4	21