Eun-Chel Cho

List of Publications by Citations

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	Silicon nanostructures for third generation photovoltaic solar cells. *Thin Solid Films*, **2006**, 511-512, 654-662	2.2	477
95	Silicon quantum dot nanostructures for tandem photovoltaic cells. *Thin Solid Films*, **2008**, 516, 6748-6756	2.2	332
94	Silicon quantum dot/crystalline silicon solar cells. *Nanotechnology*, **2008**, 19, 245201	3.4	243
93	Synthesis and characterization of boron-doped Si quantum dots for all-Si quantum dot tandem solar cells. *Solar Energy Materials and Solar Cells*, **2009**, 93, 273-279	6.4	112
92	Structural, electrical and photovoltaic characterization of Si nanocrystals embedded SiC matrix and Si nanocrystals/c-Si heterojunction devices. *Solar Energy Materials and Solar Cells*, **2008**, 92, 474-481	6.4	112
91	n-Type silicon quantum dots and p-type crystalline silicon heteroface solar cells. *Solar Energy Materials and Solar Cells*, **2009**, 93, 684-690	6.4	109
90	Silicon Quantum Dots in a Dielectric Matrix for All-Silicon Tandem Solar Cells. *Advances in OptoElectronics*, **2007**, 2007, 1-11	0.5	84
89	Progress on hot carrier cells. *Solar Energy Materials and Solar Cells*, **2009**, 93, 713-719	6.4	83
88	Structural characterization of annealed Si1−xCx/SiC multilayers targeting formation of Si nanocrystals in a SiC matrix. *Journal of Applied Physics*, **2008**, 103, 083544	2.5	73
87	Phosphorus-doped silicon quantum dots for all-silicon quantum dot tandem solar cells. *Solar Energy Materials and Solar Cells*, **2009**, 93, 1524-1530	6.4	71
86	Effects of boron doping on the structural and optical properties of silicon nanocrystals in a silicon dioxide matrix. *Nanotechnology*, **2008**, 19, 424019	3.4	66
85	Evolution of Si (and SiC) nanocrystal precipitation in SiC matrix. *Thin Solid Films*, **2008**, 516, 3824-3830	2.2	65
84	Effects of phosphorus doping on structural and optical properties of silicon nanocrystals in a SiO2 matrix. *Thin Solid Films*, **2009**, 517, 5646-5652	2.2	55
83	Fabrication and electrical characteristics of Si nanocrystal/c-Si heterojunctions. *Applied Physics Letters*, **2007**, 91, 123510	3.4	44
82	Fabrication and characterization of Si nanocrystals in SiC matrix produced by magnetron cosputtering. *Journal of Vacuum Science & Technology B*, **2007**, 25, 1327		43
81	Clear quantum-confined luminescence from crystalline silicon/SiO2 single quantum wells. *Applied Physics Letters*, **2004**, 84, 2286-2288	3.4	43
80	Influence of EDTA concentration on the structure and properties of SnS films prepared by electro-deposition. *Surface and Coatings Technology*, **2008**, 202, 6070-6074	4.4	41

79	Fabrication of multilayered Ge nanocrystals by magnetron sputtering and annealing. *Nanotechnology*, **2008**, 19, 455611	3.4	33
78	Resonant tunneling through defects in an insulator: Modeling and solar cell applications. *Journal of Applied Physics*, **2004**, 96, 5006-5012	2.5	28
77	Molybdenum oxide: A superior hole extraction layer for replacing p-type hydrogenated amorphous silicon with high efficiency heterojunction Si solar cells. *Materials Research Bulletin*, **2019**, 110, 90-96	5.1	28
76	Influence of small size pyramid texturing on contact shading loss and performance analysis of Ag-screen printed mono crystalline silicon solar cells. *Materials Science in Semiconductor Processing*, **2018**, 85, 68-75	4.3	26
75	Time-resolved and time-integrated photoluminescence analysis of state filling and quantum confinement of silicon quantum dots. *Journal of Applied Physics*, **2005**, 97, 013501	2.5	26
74	Antireflection and surface passivation behaviour of SiO2/Si/SiO2 quantum wells on silicon. *Solar Energy Materials and Solar Cells*, **2002**, 74, 147-154	6.4	21
73	Effect of IGZO thin films fabricated by Pulsed-DC and RF sputtering on TFT characteristics. *Materials Science in Semiconductor Processing*, **2020**, 120, 105264	4.3	20
72	Excitation dependence of photoluminescence in silicon quantum dots. *New Journal of Physics*, **2007**, 9, 337-337	2.9	16
71	A Review of the Degradation of Photovoltaic Modules for Life Expectancy. *Energies*, **2021**, 14, 4278	3.1	16
70	Fabrication and characterization of tin-based nanocrystals. *Journal of Applied Physics*, **2007**, 102, 114304	2.5	14
69	Ambient annealing influence on surface passivation and stoichiometric analysis of molybdenum oxide layer for carrier selective contact solar cells. *Materials Science in Semiconductor Processing*, **2019**, 91, 267-274	4.3	14
68	Photoluminescence in crystalline silicon quantum wells. *Journal of Applied Physics*, **2007**, 101, 024321	2.5	13
67	Ultrafast carrier dynamics of Si quantum dots embedded in SiN matrix. *Applied Physics Letters*, **2007**, 90, 081105	3.4	11
66	Atomistic structure of SiO2□Si□SiO2 quantum wells with an apparently crystalline silicon oxide. *Journal of Applied Physics*, **2004**, 96, 3211-3216	2.5	11
65	21%-Efficient n-type Rear-junction PERT Solar Cell with Industrial Thin 156mm Cz Single Crystalline Silicon Wafer. *Energy Procedia*, **2015**, 77, 279-285	2.3	10
64	Efficient light trapping for maskless large area randomly textured glass structures with various haze ratios in silicon thin film solar cells. *Solar Energy*, **2018**, 173, 1173-1180	6.8	10
63	Effects of post deposition annealing atmosphere on interfacial and electrical properties of HfO2/Ge3N4 gate stacks. *Thin Solid Films*, **2019**, 675, 16-22	2.2	9
62	21%-efficient PERL Solar Cells with Plated Front Contacts on Industrial 156mm p-type Crystalline Silicon Wafers. *Energy Procedia*, **2014**, 55, 431-436	2.3	8

61	Effect on the reduction of the barrier height in rear-emitter silicon heterojunction solar cells using Ar plasma-treated ITO film. *Current Applied Physics*, **2020**, 20, 219-225	2.6	7
60	Surface Modifications for Light Trapping in Silicon Heterojunction Solar Cells: A Brief Review. *Transactions on Electrical and Electronic Materials*, **2020**, 21, 349-354	1.7	6
59	Review of Rear Emitter Silicon Heterojunction Solar Cells. *Transactions on Electrical and Electronic Materials*, **2020**, 21, 138-143	1.7	6
58	Controlling a crystalline seed layer for mirocrystalline silicon oxide window layer in rear emitter silicon heterojunction cells. *Infrared Physics and Technology*, **2019**, 102, 103037	2.7	6
57	Electrochemical supercapacitive studies of chemically deposited Co1-Ni S thin films. *Materials Science in Semiconductor Processing*, **2020**, 107, 104799	4.3	6
56	Versatile Hole Carrier Selective MoOx Contact for High Efficiency Silicon Heterojunction Solar Cells: A Review. *Transactions on Electrical and Electronic Materials*, **2019**, 20, 1-6	1.7	6
55	Novel synthesis method for quaternary Cd(Cu, Zn)Se thin films and its characterizations. *Ceramics International*, **2020**, 46, 74-80	5.1	6
54	Simulation of Silicon Heterojunction Solar Cells for High Efficiency with Lithium Fluoride Electron Carrier Selective Layer. *Energies*, **2020**, 13, 1635	3.1	5
53	High-efficiency Crystalline Silicon Solar Cells: A Review. *New & Renewable Energy*, **2019**, 15, 36-45	0.4	5
52	Cd(Zn, S)Se quaternary thin films for electrochemical photovoltaic cell application. *International Journal of Energy Research*, **2020**, 44, 3737-3748	4.5	4
51	Light Capturing Film on interconnect ribbon for current gain of crystalline silicon PV modules **2013**,		4
50	Structural and photoluminescence properties of superlattice structures consisting of Sn-rich SiO2 and stoichiometric SiO2 layers. *Thin Solid Films*, **2011**, 520, 641-645	2.2	4
49	Optimization of MIS type Non-Volatile Memory Device with Al-Doped HfO2 as Charge Trapping Layer. *ECS Journal of Solid State Science and Technology*, **2020**, 9, 075004	2	4
48	High-efficiency hybrid solar cell with a nano-crystalline silicon oxide layer as an electron-selective contact. *Energy Conversion and Management*, **2021**, 252, 115033	10.6	4
47	Computer modeling of the front surface field layer on the performance of the rear-emitter silicon heterojunction solar cell with 25 % efficiency. *Optik*, **2020**, 205, 164011	2.5	4
46	Effects of tunneling oxide defect density and inter-diffused carrier concentration on carrier selective contact solar cell performance: Illumination and temperature effects. *Solar Energy*, **2020**, 211, 62-73	6.8	4
45	Nanoscale SiOx Tunnel Oxide Deposition Techniques and Their Influence on Cell Parameters of TOPCon Solar Cells. *Transactions on Electrical and Electronic Materials*, **2021**, 22, 557-566	1.7	4
44	MoOx work function, interface structure, and thermal stability analysis of ITO/MoOx/a-Si(i) stacks for hole-selective silicon heterojunction solar cells. *Applied Surface Science*, **2021**, 553, 149552	6.7	4

43	Innovative passivating contact using quantum well at poly-Si/c-Si interface for crystalline silicon solar cells. *Chemical Engineering Journal*, **2021**, 423, 130239	14.7	4
42	ITO: Zr bi-layers deposited by reactive O2 and Ar plasma with high work function for silicon heterojunction solar cells. *Current Applied Physics*, **2020**, 20, 994-1000	2.6	3
41	Monocrystalline silicon-based tandem configuration for solar-to-hydrogen conversion. *Inorganic Chemistry Communication*, **2020**, 116, 107926	3.1	3
40	Copper metallization of silicon PERL solar cells: 21% cell efficiency and module assembly using conductive film **2014**,		3
39	Light Capturing Film for power gain of silicon PV modules **2014**,		3
38	Study of silicon quantum dot p-n or p-i-n junction devices on c-Si substrate. *Optoelectronic and Microelectronic Materials and Devices (COMMAD), Conference on*, **2008**,		3
37	Future Options for Lightweight Photovoltaic Modules in Electrical Passenger Cars. *Sustainability*, **2021**, 13, 2532	3.6	3
36	Investigation of asymmetric degradation in electrical properties of a-InGaZnO thin-film transistor arrays as a function of channel width-to-length aspect ratio. *Journal of Materials Science: Materials in Electronics*, **2020**, 31, 9826-9834	2.1	2
35	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. *Energies*, **2020**, 13, 2948	3.1	2
34	Crystallization of Amorphous Silicon via Excimer Laser Annealing and Evaluation of Its Passivation Properties. *Energies*, **2020**, 13, 3335	3.1	2
33	Passivated emitter and rear contact (PERC) approach for small-scale laboratory industrial applications. *Solar Energy*, **2019**, 194, 167-176	6.8	2
32	Analysis of current gain by varying the spacing between cells in a PV module with quantum efficiency measurement **2012**,		2
31	Ultrafast transient grating spectroscopy in silicon quantum dots. *Journal of Nanoscience and Nanotechnology*, **2009**, 9, 4575-9	1.3	2
30	Effects of silicon nanocrystallite density on the Raman-scattering spectra of silicon quantum dot superlattices **2006**,		2
29	Influence of Ultra-Thin GeNI Passivation Layer on Structural, Interfacial, and Electrical Properties of HfO/Ge Metal-Oxide-Semiconductor Devices. *Journal of Nanoscience and Nanotechnology*, **2020**, 20, 1039-1045	1.3	2
28	Review on the Progress in Building Integrated Photovoltaic Materials and Module Technology. *New & Renewable Energy*, **2019**, 15, 47-54	0.4	2
27	Analysis of Cell to Module Loss Factor for Shingled PV Module. *New & Renewable Energy*, **2020**, 16, 1-12	0.4	2
26	Structural and energy bandgap modification of chemically synthesized Cd(Zn, Cu)Se thin films. *Chemical Physics Letters*, **2020**, 739, 136990	2.5	2

25	Electrical Characteristics of Bulk FinFET According to Spacer Length. *Electronics (Switzerland)*, **2020**, 9, 1283	2.6	2
24	Design of front emitter layer for improving efficiency in silicon heterojunction solar cells via numerical calculations. *Optik*, **2021**, 235, 166580	2.5	2
23	Improving passivation properties using a nano-crystalline silicon oxide layer for high-efficiency TOPCon cells. *Infrared Physics and Technology*, **2021**, 115, 103723	2.7	2
22	Improving Retention Properties of ALD-AlxOy Charge Trapping Layer for Non-Volatile Memory Application. *ECS Journal of Solid State Science and Technology*, **2020**, 9, 043002	2	1
21	**2019**,		1
20	Toward a High Efficiency Siliocn Solar Cells-Simplified Cell Processing using Paste Contained Phosphorous Compounds **2006**,		1
19	Analysis of Negative Bias Illumination Stress Induced Effect on LTPS and a-IGZO TFT. *ECS Journal of Solid State Science and Technology*, **2020**, 9, 106005	2	1
18	A study on Improvement of Electrical and Retention characteristics of Non-volatile Memory with Al2O3 Insulator **2019**,		1
17	Combination of ultraviolet exposure and thermal post-treatment to obtain high quality HfO2 thin films. *Ceramics International*, **2021**, 47, 9643-9650	5.1	1
16	Advanced Light scattering through various textured glass surface morphologies in thin film silicon solar cells **2018**,		1
15	Role of electron carrier selective contact layer of lithium fluoride films with wide bandgap and low work function for silicon heterojunction solar cells. *Materials Science in Semiconductor Processing*, **2021**, 134, 105982	4.3	1
14	A Novel Method to Achieve Selective Emitter Using Surface Morphology for PERC Silicon Solar Cells. *Energies*, **2020**, 13, 5207	3.1	0
13	The light-trapping effect in various textured cover glass for enhancing the current density in silicon heterojunction solar cells. *Optics Communications*, **2020**, 467, 125657	2	0
12	Fabrication of multilayered Ge nanocrystals embedded in SiOxGeNy films. *Applied Surface Science*, **2008**, 254, 7527-7530	6.7	0
11	Analysis of solder joint degradation and output power drop in silicon photovoltaic modules for reliability improvement. *Microelectronics Reliability*, **2021**, 127, 114399	1.2	0
10	Corrosion, LID and LeTID in Silicon PV Modules and Solution Methods to Improve Reliability. *Transactions on Electrical and Electronic Materials*, **2021**, 22, 575-583	1.7	0
9	A study on the influence of the albedo spectrum on the bifacial GaAs/c-Si heterojunction tandem solar cell using computer modelling. *Solar Energy*, **2021**, 227, 490-496	6.8	0
8	Mechanical fatigue life analysis of solar panels under cyclic load conditions for design improvement. *Journal of the Brazilian Society of Mechanical Sciences and Engineering*, **2022**, 44, 1	2	0

7	Numerical Simulation and Experiment of a High-Efficiency Tunnel Oxide Passivated Contact (TOPCon) Solar Cell Using a Crystalline Nanostructured Silicon-Based Layer. *Applied Sciences (Switzerland)*, **2022**, 12, 392	2.6	0
6	Synergistic enhancement in optoelectrical anisotropy of polymer film at the air-liquid interface: An insight into molecular weight distribution dependent polymer alignment. *Applied Surface Science*, **2022**, 593, 153413	6.7	0
5	Effects of post-metallisation annealing on surface, interfacial and electrical properties of HfO2/Ge stacks modified in situ with SiO2 interfacial layer. *Materials Research Express*, **2019**, 6, 086442	1.7	
4	Design Analysis of Crystalline Silicon Solar Cell Using 1-Dimensional Modelling. *Korean Journal of Materials Research*, **2008**, 18, 571-576	0.2	
3	A Review on Degradation of Silicon Photovoltaic Modules. *New & Renewable Energy*, **2021**, 17, 19-32	0.4	
2	Investigation of EVA Accelerated Degradation Test for Silicon Photovoltaic Modules. *New & Renewable Energy*, **2021**, 17, 24-31	0.4	
1	Interface state density and barrier height improvement in ammonium sulfide treated Al2O3/Si interfaces. *Current Applied Physics*, **2021**, 26, 83-89	2.6	