Dae-Kue Hwang

List of Publications by Year
in descending order

103 papers	4,818 citations	159585 30 h-index	95266 68 g-index
103 all docs	103 docs citations	103 times ranked	4973 citing authors

#	Article	IF	Citations
1	Realization of p-type ZnO thin films via phosphorus doping and thermal activation of the dopant. Applied Physics Letters, 2003, 83, 63-65.	3.3	600
2	UV Electroluminescence Emission from ZnO Light-Emitting Diodes Grown by High-Temperature Radiofrequency Sputtering. Advanced Materials, 2006, 18, 2720-2724.	21.0	592
3	p-ZnO/n-GaN heterostructure ZnO light-emitting diodes. Applied Physics Letters, 2005, 86, 222101.	3.3	337
4	Recent Advances in ZnO-Based Light-Emitting Diodes. IEEE Transactions on Electron Devices, 2010, 57, 26-41.	3.0	333
5	A band-gap-graded CZTSSe solar cell with 12.3% efficiency. Journal of Materials Chemistry A, 2016, 4, 10151-10158.	10.3	260
6	Tunable Electronic Transport Characteristics of Surface-Architecture-Controlled ZnO Nanowire Field Effect Transistors. Nano Letters, 2008, 8, 950-956.	9.1	235
7	Study of the photoluminescence of phosphorus-doped p-type ZnO thin films grown by radio-frequency magnetron sputtering. Applied Physics Letters, 2005, 86, 151917.	3.3	230
8	Effect of solid-H₂S gas reactions on CZTSSe thin film growth and photovoltaic properties of a 12.62% efficiency device. Journal of Materials Chemistry A, 2019, 7, 25279-25289.	10.3	229
9	ZnO thin films and light-emitting diodes. Journal Physics D: Applied Physics, 2007, 40, R387-R412.	2.8	187
10	Effects of Na and MoS₂ on Cu₂ZnSnS₄ thinâ€film solar cell. Progress in Photovoltaics: Research and Applications, 2015, 23, 862-873.	8.1	108
11	Materials, Interfaces, and Photon Confinement in Dye-Sensitized Solar Cells. Journal of Physical Chemistry B, 2010, 114, 14582-14591.	2.6	76
12	Low-resistivity and transparent indium-oxide-doped ZnO ohmic contact to p-type GaN. Applied Physics Letters, 2004, 85, 6191-6193.	3.3	64
13	Effect of N[sub 2]O Plasma Treatment on the Performance of ZnO TFTs. Electrochemical and Solid-State Letters, 2008, 11, H55.	2.2	62
14	Void and secondary phase formation mechanisms of CZTSSe using Sn/Cu/Zn/Mo stacked elemental precursors. Nano Energy, 2019, 59, 399-411.	16.0	61
15	Effects of Electrical Bias Stress on the Performance of ZnO-Based TFTs Fabricated by RF Magnetron Sputtering. Journal of the Electrochemical Society, 2006, 153, G385.	2.9	60
16	Effect of annealing temperature and ambient gas on phosphorus doped p-type ZnO. Applied Physics Letters, 2007, 90, 021106.	3.3	58
17	Single-step sulfo-selenization method for achieving low open circuit voltage deficit with band gap front-graded Cu2ZnSn(S,Se)4 thin films. Solar Energy Materials and Solar Cells, 2017, 161, 162-169.	6.2	55
18	Realization of highly reproducible ZnO nanowire field effect transistors with n-channel depletion and enhancement modes. Applied Physics Letters, 2007, 90, 243103.	3.3	52

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19	ZnO-based light-emitting metal-insulator-semiconductor diodes. Applied Physics Letters, 2007, 91, .	3.3	50
20	Fabrication and characterizations of ZnO thin film transistors prepared by using radio frequency magnetron sputtering. Solid-State Electronics, 2008, 52, 813-816.	1.4	49
21	Improving the Gate Stability of ZnO Thin-Film Transistors with Aluminum Oxide Dielectric Layers. Journal of the Electrochemical Society, 2008, 155, H1009.	2.9	45
22	Improvement of Pt Schottky contacts to n-type ZnO by KrF excimer laser irradiation. Applied Physics Letters, 2007, 91, .	3.3	43
23	High efficiency bifacial Cu2ZnSnSe4 thin-film solar cells on transparent conducting oxide glass substrates. APL Materials, 2016, 4, .	5.1	40
24	A nanoindentation study of the mechanical properties of ZnO thin films on (0 0 0 1) sapphire. Applied Surface Science, 2006, 253, 464-467.	6.1	37
25	Optimizing the Performance of a Plastic Dye-Sensitized Solar Cell. Journal of Physical Chemistry C, 2011, 115, 9787-9796.	3.1	37
26	Efficiency enhancement in solid dye-sensitized solar cell by three-dimensional photonic crystal. RSC Advances, 2013, 3, 3017.	3.6	36
27	Microstructural properties of phosphorus-doped p-type ZnO grown by radio-frequency magnetron sputtering. Applied Physics Letters, 2008, 93, .	3.3	35
28	Formation and Effect of Thermal Annealing for Low-Resistance Ni/Au Ohmic Contact to Phosphorous-Doped p-Type ZnO. Journal of the Electrochemical Society, 2005, 152, G179.	2.9	34
29	Optical investigation of p-type ZnO epilayers doped with different phosphorus concentrations by radio-frequency magnetron sputtering. Applied Physics Letters, 2007, 91, 061903.	3.3	33
30	Effect of pressure on the properties of phosphorus-doped p-type ZnO thin films grown by radio frequency-magnetron sputtering. Applied Physics Letters, 2008, 92, .	3.3	32
31	Photonic bandgap engineering with inverse opal multistacks of different refractive index contrasts. Applied Physics Letters, 2009, 95, 091101.	3.3	31
32	Quasi-solid state electrolyte for semi-transparent bifacial dye-sensitized solar cell with over 10% power conversion efficiency. Journal of Power Sources, 2017, 361, 87-95.	7.8	31
33	High-performance GaN-based light-emitting diode using high-transparency Niâ•Auâ•Al-doped ZnO composite contacts. Applied Physics Letters, 2005, 87, 181107.	3.3	29
34	Improvement of Characteristics of Ga-Doped ZnO Grown by Pulsed Laser Deposition Using Plasma-Enhanced Oxygen Radicals. Journal of the Electrochemical Society, 2008, 155, D599.	2.9	29
35	Effects of surface roughness on the electrical characteristics of ZnO nanowire field effect transistors. Applied Surface Science, 2008, 254, 7559-7564.	6.1	28
36	Work Function Modification of Indiumâ€“Tin Oxide by Surface Plasma Treatments Using Different Gases. Japanese Journal of Applied Physics, 2009, 48, 021601.	1.5	27

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37	Nanostructured p-type CZTS thin films prepared by a facile solution process for 3D pâ€“n junction solar cells. Nanoscale, 2015, 7, 11182-11189.	5.6	27
38	Current-driven hydrogen incorporation in zinc oxide. Applied Physics Letters, 2007, 91, 212102.	3.3	26
39	Effect of Rapid Thermal Annealing on the Electrical Characteristics of ZnO Thin-Film Transistors. Japanese Journal of Applied Physics, 2008, 47, 2848-2853.	1.5	25
40	Low-resistance and highly transparent Ni/indium-tin oxide ohmic contacts to phosphorous-doped p-type ZnO. Applied Physics Letters, 2005, 86, 211902.	3.3	24
41	ZnO-based thin film transistors having high refractive index silicon nitride gate. Applied Physics Letters, 2007, 91, 182101.	3.3	24
42	Comparison of chalcopyrite and kesterite thin-film solar cells. Journal of Industrial and Engineering Chemistry, 2017, 45, 78-84.	5.8	23
43	Znâˆ•Au Ohmic Contacts on n-Type ZnO Epitaxial Layers for Light-Emitting Devices. Electrochemical and Solid-State Letters, 2005, 8, G198.	2.2	21
44	Induced Growth of CsPbBr₃ Perovskite Films by Incorporating Metal Chalcogenide Quantum Dots in PbBr₂ Films for Performance Enhancement of Inorganic Perovskite Solar Cells. ACS Applied Energy Materials, 2020, 3, 10376-10383.	5.1	21
45	Highly transparent and low resistance gallium-doped indium oxide contact to p-type GaN. Applied Physics Letters, 2005, 87, 042109.	3.3	20
46	Impact of Hydrogenation of ZnO TFTs by Plasma-Deposited Silicon Nitride Gate Dielectric. IEEE Transactions on Electron Devices, 2008, 55, 2736-2743.	3.0	20
47	Thermal annealing effects on the dynamic photoresponse properties of Al-doped ZnO nanowires network. Current Applied Physics, 2011, 11, 1311-1314.	2.4	20
48	The Effect of Arâˆ•O[sub 2] Sputtering Gas on the Phosphorus-Doped p-Type ZnO Thin Films. Journal of the Electrochemical Society, 2006, 153, G242.	2.9	17
49	Growth of Buffer-Free High-Quality ZnO Epilayer on Sapphire (0001) Using Radio-Frequency Magnetron Sputtering. Journal of the Electrochemical Society, 2004, 151, G623.	2.9	16
50	Formation of Low Resistance Nonalloyed Tiâˆ•Au Ohmic Contacts to n-Type ZnO by KrF Excimer Laser Irradiation. Electrochemical and Solid-State Letters, 2005, 8, G317.	2.2	16
51	Low resistance nonalloyed Niâˆ•Au Ohmic contacts to p-GaN irradiated by KrF excimer laser. Applied Physics Letters, 2006, 89, 042107.	3.3	14
52	The optical and structural properties of CuIn1âˆ’x Ga x Se2 thin films fabricated with various Ga contents by using the co-evaporation technique. Journal of the Korean Physical Society, 2012, 60, 1708-1712.	0.7	13
53	Enhancement of the light harvesting efficiency in a dye-sensitized solar cell by a patterned reflector. Thin Solid Films, 2013, 546, 326-330.	1.8	13
54	Dye-sensitized solar cells based on trench structured TiO2 nanotubes in Ti substrate. Current Applied Physics, 2013, 13, 795-798.	2.4	13

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55	Surface-enhanced Raman scattering from silver-coated opals. Journal of Chemical Physics, 2011, 134, 124312.	3.0	12
56	Effects of annealing on structural and electrical properties of sub-micron thick CIGS films. Current Applied Physics, 2013, 13, S135-S139.	2.4	12
57	Optimization of the ZnS Buffer Layer by Chemical Bath Deposition for Cu(In,Ga)Se₂ Solar Cells. Journal of Nanoscience and Nanotechnology, 2016, 16, 5398-5402.	0.9	11
58	Efficiency enhancement of bifacial Cu2ZnSnSe4 thin-film solar cells on indium tin oxide glass substrates by suppressing In-Sn diffusion with Mo interlayer. Journal of Power Sources, 2018, 400, 9-15.	7.8	11
59	Effect of Interlayers on the Indium Oxide-Doped ZnO Ohmic Contact to p-Type GaN. Journal of the Electrochemical Society, 2005, 152, G491.	2.9	10
60	Growth and Characterization of Gallium-Doped ZnO Films for Î±-Particle Scintillators. Journal of the Electrochemical Society, 2008, 155, H909.	2.9	10
61	Electrospun ZnO Nanofibers as a Photoelectrode in Dye-Sensitized Solar Cells. Journal of Nanoscience and Nanotechnology, 2015, 15, 2346-2350.	0.9	10
62	Effect of embedded chalcogenide quantum dots in PbBr2 film on CsPbBr3 inorganic perovskite solar cells. Journal of Industrial and Engineering Chemistry, 2020, 90, 281-286.	5.8	10
63	Atomic Layer Deposition of Ultrathin ZnO Films for Hybrid Window Layers for Cu(Inx,Ga1â^'x)Se2 Solar Cells. Nanomaterials, 2021, 11, 2779.	4.1	10
64	High-quality nonpolar ZnO thin films grown on r-plane sapphire by radio frequency-magnetron sputtering. Thin Solid Films, 2013, 546, 18-21.	1.8	9
65	Mesoporous TiO₂ hierarchical structures: preparation and efficacy in solar cells. RSC Advances, 2017, 7, 49057-49065.	3.6	8
66	Deformation behavior during nanoindentation of epitaxial ZnO thin films on sapphire substrate. Materials Letters, 2007, 61, 2443-2445.	2.6	7
67	Effect of VI/II Gas Ratio on the Epitaxial Growth of ZnO Films by Metalorganic Chemical Vapor Deposition. Japanese Journal of Applied Physics, 2011, 50, 105502.	1.5	7
68	Efficiency Enhancement in Dye-Sensitized Solar Cells by Three-Dimensional Photonic Crystals. Applied Physics Express, 2012, 5, 122301.	2.4	7
69	Effect of hot-pressing on an electrospun TiO2electrode for dye-sensitized solar cells. Applied Physics Express, 2014, 7, 072301.	2.4	6
70	Improvement of Ga distribution with Sb incorporation for two-step low-temperature processing of CIGSe thin film solar cells. Solar Energy Materials and Solar Cells, 2019, 194, 244-251.	6.2	6
71	Optimum Substrate Temperature in One-stage Co-evaporation of Cu(In,Ga)Se2 Thin Films for High-efficiency Solar Cells. Journal of the Korean Physical Society, 2011, 59, 3432-3434.	0.7	6
72	Effect of VI/II Gas Ratio on the Epitaxial Growth of ZnO Films by Metalorganic Chemical Vapor Deposition. Japanese Journal of Applied Physics, 2011, 50, 105502.	1.5	6

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73	Electroreflectance study of CuIn1âˆ'xGaxSe2 thin film solar cells. Current Applied Physics, 2014, 14, 318-321.	2.4	5
74	Effects of the annealing temperature on the properties of sulfur-graded Cu2ZnSn(S,Se)4 thin films grown by a modified two-step process. Journal of Industrial and Engineering Chemistry, 2020, 82, 406-412.	5.8	5
75	Formation of Macropore and Three-Dimensional Nanorod Array in p-Type Silicon. Japanese Journal of Applied Physics, 2010, 49, 056503.	1.5	4
76	Silverâ€coated inverse opals formed from polystyrene spheres for surfaceâ€enhanced Raman scattering. Journal of Raman Spectroscopy, 2011, 42, 941-944.	2.5	4
77	Effect of TiO2Nanoparticle Modification on Ultraviolet Photodetection Properties of Al-Doped ZnO Nanowire Network. Japanese Journal of Applied Physics, 2011, 50, 06GF07.	1.5	4
78	Effects of a Pretreatment on Al-Doped ZnO Thin Films Grown by Atomic Layer Deposition. Journal of Nanoscience and Nanotechnology, 2015, 15, 2432-2435.	0.9	4
79	Characterization of in-situ annealed sub-micron thick Cu(In,Ga)Se2 thin films. Thin Solid Films, 2015, 590, 330-334.	1.8	4
80	Effect of Metal-Precursor Stacking Order on Volume-Defect Formation in CZTSSe Thin Film: Formation Mechanism of Blisters and Nanopores. ACS Applied Materials & Interfaces, 2022, 14, 30649-30657.	8.0	4
81	Highly transparent ZnO spreading layer for GaN based LED. Physica Status Solidi C: Current Topics in Solid State Physics, 2005, 2, 2533-2535.	0.8	3
82	Effect of TiO₂Nanoparticle Modification on Ultraviolet Photodetection Properties of Al-Doped ZnO Nanowire Network. Japanese Journal of Applied Physics, 2011, 50, 06GF07.	1.5	3
83	In Situ Synthesis of Gold Nanoparticles in Poly(3,4-ethylenedioxythiophene): Poly(styrenesulfonate) and Application to Hybrid Solar Cells. Science of Advanced Materials, 2017, 10, 560-564.	0.7	3
84	Resistance switching of Al doped ZnO for Non Volatile Memory applications. , 0, , .		2
85	Effect of Anodic Aluminum Oxide Template Imprinting on TiO₂ Blocking Layer of Flexible Dye-Sensitized Solar Cell. Journal of Nanoscience and Nanotechnology, 2013, 13, 1888-1890.	0.9	2
86	Controlled fabrication of mesoporous TiO₂ hierarchical structures as scattering layers to enhance the power conversion efficiency of dye-sensitized solar cells. Physical Chemistry Chemical Physics, 2016, 18, 30254-30260.	2.8	2
87	Control of Zn Content and Influence on Cu₂ZnSnSe₄ Thin-Film Solar Cells Fabricated by Coevaporation. Journal of Nanoscience and Nanotechnology, 2017, 17, 8236-8241.	0.9	2
88	Fabrication of Sb2S3 Hybrid Solar Cells Based on Embedded Photoelectrodes of Ag Nanowires-Au Nanoparticles Composite. Journal of Nanoscience and Nanotechnology, 2018, 18, 6520-6523.	0.9	2
89	Effects of As Doping on Properties of ZnO Films. Materials Research Society Symposia Proceedings, 2001, 692, 1.	0.1	1
90	Fabrication of High Efficiency Dye-Sensitized Solar Cells Based on TiO₂ Nanoparticles Embedded in Ti Substrate. Journal of Nanoscience and Nanotechnology, 2015, 15, 241-243.	0.9	1

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91	Effect of TiCl₄ Post-Treatment on the Embedded-Type TiO₂ Nanotubes Dye-Sensitized Solar Cells. Journal of Nanoscience and Nanotechnology, 2015, 15, 7845-7847.	0.9	1
92	Effect of Ag Nanowire/ZnO Coreâ€“Shell Photoelectrodes in Sb₂S₃-Based Hybrid Solar Cells. Journal of Nanoscience and Nanotechnology, 2017, 17, 8201-8204.	0.9	1
93	Optimization of Electrolyte Components on the Performance of Organic-Dye-Sensitized Solar Cells. Journal of Nanoscience and Nanotechnology, 2017, 17, 8100-8104.	0.9	1
94	Enhanced Performance of Dye-Sensitized Solar Cells Based on Electrospun TiO2 Electrode. Journal of Nanoscience and Nanotechnology, 2017, 17, 8117-8121.	0.9	1
95	Effect of Thickness of Electrosprayed TiO₂ Photoelectrode for Application in Transparent Yellow Color Dye-Sensitized Solar Cells. Journal of Nanoscience and Nanotechnology, 2016, 16, 10597-10601.	0.9	1
96	Effect of Structural Non-Planarity and Ï€-Conjugated Unit of Novel Bicarbazole Derivatives for Dye-Sensitized Solar Cells. Science of Advanced Materials, 2016, 8, 1381-1389.	0.7	1
97	Effects of Back Annealing on the Structural and Electrical Properties of Cu₂ZnSnSe₄ Thin Films Grown by a Modified Two-Step Process. Science of Advanced Materials, 2017, 10, 580-585.	0.7	1
98	Growth of Buffer-Free High-Quality ZnO Epilayer on Sapphire (0001) Using Radio-Frequency Magnetron Sputtering [J. Electrochem. Soc., 151, G623 (2004)]. Journal of the Electrochemical Society, 2004, 151, L15.	2.9	0
99	Electrical and optical properties of silicon quantum dots light-emitting diode by using highly doped ZnO. , 0, , .		0
100	Effect of selenization on local current and surface potential of sputtered Cu<inf>2</inf>ZnSn(S, Se)<inf>4</inf> thin-films with 8% conversion efficiency. , 2013, , .		0
101	Effect of Perovskite Overlayers on TiO₂ Electrodes in Perovskite-Sensitized Solar Cells. Journal of Nanoscience and Nanotechnology, 2016, 16, 5305-5307.	0.9	0
102	Fabrication of Dye-Sensitized Solar Cells Based on Embedded Photoelectrodes of TiO₂ Nanotube-Nanoparticles Composite. Journal of Nanoscience and Nanotechnology, 2016, 16, 10716-10719.	0.9	0
103	Effects of Thickness of Electrosprayed Spherical TiO₂ Photoelectrodes on the Performance of Dye-Sensitized Solar Cells. Science of Advanced Materials, 2016, 8, 640-644.	0.7	0