Kwun Bum Chung

List of Publications by Year
in descending order

99 papers	2,144 citations	218677 26 h-index	289244 40 g-index
100 all docs	100 docs citations	100 times ranked	2664 citing authors

#	Article	IF	Citations
1	Electron blocking layer-based interfacial design for highly-enhanced triboelectric nanogenerators. Nano Energy, 2018, 50, 9-15.	16.0	105
2	Area-Selective Atomic Layer Deposition Using Si Precursors as Inhibitors. Chemistry of Materials, 2018, 30, 7603-7610.	6.7	78
3	High-pressure Gas Activation for Amorphous Indium-Gallium-Zinc-Oxide Thin-Film Transistors at 100â€‰Â°C. Scientific Reports, 2016, 6, 23039.	3.3	76
4	Comparative Study on Performance of IGZO Transistors With Sputtered and Atomic Layer Deposited Channel Layer. IEEE Transactions on Electron Devices, 2019, 66, 1783-1788.	3.0	76
5	Activation of sputter-processed indiumâ€“galliumâ€“zinc oxide films by simultaneous ultraviolet and thermal treatments. Scientific Reports, 2016, 6, 21869.	3.3	75
6	Enhanced efficiency in lead-free bismuth iodide with post treatment based on a hole-conductor-free perovskite solar cell. Nano Research, 2018, 11, 6283-6293.	10.4	72
7	Indoor-type photovoltaics with organic solar cells through optimal design. Dyes and Pigments, 2018, 159, 306-313.	3.7	70
8	The effects of film thickness on the electrical, optical, and structural properties of cylindrical, rotating, magnetron-sputtered ITO films. Applied Surface Science, 2018, 440, 1211-1218.	6.1	59
9	Layer-by-layer assembled graphene multilayers on multidimensional surfaces for highly durable, scalable, and wearable triboelectric nanogenerators. Journal of Materials Chemistry A, 2018, 6, 3108-3115.	10.3	51
10	Facile Routes To Improve Performance of Solution-Processed Amorphous Metal Oxide Thin Film Transistors by Water Vapor Annealing. ACS Applied Materials & Interfaces, 2015, 7, 13289-13294.	8.0	47
11	Achieving High Mobility and Excellent Stability in Amorphous Inâ€“Gaâ€“Znâ€“Snâ€“O Thin-Film Transistors. IEEE Transactions on Electron Devices, 2020, 67, 1014-1020.	3.0	44
12	The impact of SiNx gate insulators on amorphous indium-gallium-zinc oxide thin film transistors under bias-temperature-illumination stress. Applied Physics Letters, 2010, 96, 193506.	3.3	43
13	Transparent and flexible amorphous In-Si-O films for flexible organic solar cells. Applied Physics Letters, 2013, 102, 021914.	3.3	43
14	Effects of Embedded TiO2â^'x Nanoparticles on Triboelectric Nanogenerator Performance. Micromachines, 2018, 9, 407.	2.9	43
15	Thickness dependence on crystalline structure and interfacial reactions in HfO2 films on InP (001) grown by atomic layer deposition. Applied Physics Letters, 2010, 97, .	3.3	42
16	Effect of Active Layer Thickness on Device Performance of Tungsten-Doped InZnO Thin-Film Transistor. IEEE Transactions on Electron Devices, 2017, 64, 159-163.	3.0	41
17	Device performance and bias instability of Ta doped InZnO thin film transistor as a function of process pressure. Applied Physics Letters, 2013, 102, .	3.3	40
18	Thermal evolution and electrical correlation of defect states in Hf-based high-Îº dielectrics on n-type Ge (100): Local atomic bonding symmetry. Journal of Applied Physics, 2009, 106, 074102.	2.5	39

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19	Facile fabrication of high-performance InGaZnO thin film transistor using hydrogen ion irradiation at room temperature. Applied Physics Letters, 2014, 105, .	3.3	38
20	Ensemble Design of Electrodeâ€“Electrolyte Interfaces: Toward High-Performance Thin-Film All-Solid-State Liâ€“Metal Batteries. ACS Nano, 2021, 15, 4561-4575.	14.6	38
21	Thermal Evolution of Band Edge States in ZnO Film as a Function of Annealing Ambient Atmosphere. Electrochemical and Solid-State Letters, 2012, 15, H133.	2.2	35
22	A role of oxygen vacancy on annealed ZnO film in the hydrogen atmosphere. Current Applied Physics, 2012, 12, S164-S167.	2.4	34
23	Nitridation for HfO2 high-k films on Si by an NH3 annealing treatment. Applied Physics Letters, 2006, 88, 202902.	3.3	32
24	Reliability of Crystalline Indiumâ€“Galliumâ€“Zinc-Oxide Thin-Film Transistors Under Bias Stress With Light Illumination. IEEE Transactions on Electron Devices, 2015, 62, 2900-2905.	3.0	32
25	Simple brush-painting of Ti-doped In2O3 transparent conducting electrodes from nano-particle solution for organic solar cells. Solar Energy Materials and Solar Cells, 2014, 122, 241-250.	6.2	29
26	Origin of Electrical Instabilities in Self-Aligned Amorphous Inâ€“Gaâ€“Znâ€“O Thin-Film Transistors. IEEE Transactions on Electron Devices, 2017, 64, 4965-4973.	3.0	28
27	Transparent and flexible amorphous InZnAlO films grown by roll-to-roll sputtering for acidic buffer-free flexible organic solar cells. Organic Electronics, 2015, 24, 227-233.	2.6	26
28	Harvesting near- and far-field plasmonic enhancements from large size gold nanoparticles for improved performance in organic bulk heterojunction solar cells. Organic Electronics, 2019, 66, 94-101.	2.6	25
29	Growth of high-quality semiconducting tellurium films for high-performance p-channel field-effect transistors with wafer-scale uniformity. Npj 2D Materials and Applications, 2022, 6, .	7.9	25
30	Highly Reliable Amorphous In-Ga-Zn-O Thin-Film Transistors Through the Addition of Nitrogen Doping. IEEE Transactions on Electron Devices, 2019, 66, 457-463.	3.0	24
31	Enhancement of the Device Performance and the Stability with a Homojunction-structured Tungsten Indium Zinc Oxide Thin Film Transistor. Scientific Reports, 2017, 7, 11634.	3.3	23
32	d-orbital ordering of oxygen-deficient amorphous and anatase TiO2â^'x channels for high mobility thin film transistors. Applied Physics Letters, 2013, 102, .	3.3	22
33	Low temperature processed InGaZnO thin film transistor using the combination of hydrogen irradiation and annealing. Applied Surface Science, 2014, 321, 520-524.	6.1	22
34	Independent chemical/physical role of combustive exothermic heat in solution-processed metal oxide semiconductors for thin-film transistors. Journal of Materials Chemistry C, 2015, 3, 1457-1462.	5.5	22
35	Impact of bias stability for crystalline InZnO thin-film transistors. Applied Physics Letters, 2017, 110, .	3.3	22
36	Comparison of ZnO buffer layers prepared by spin coating or RF magnetron sputtering for application in inverted organic solar cells. Journal of Alloys and Compounds, 2019, 778, 487-495.	5.5	22

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37	The effect of Ta doping in polycrystalline TiOx and the associated thin film transistor properties. Applied Physics Letters, 2013, 103, .	3.3	20
38	Improvement of device performance and instability of tungsten-doped InZnO thin-film transistor with respect to doping concentration. Applied Physics Express, 2016, 9, 111101.	2.4	19
39	Modulation of the electrical properties in amorphous indium-gallium zinc-oxide semiconductor films using hydrogen incorporation. Applied Physics Letters, 2017, 111, .	3.3	19
40	Semiconducting properties of amorphous GaZnSnO thin film based on combinatorial electronic structures. Applied Physics Letters, 2014, 104, 182106.	3.3	18
41	Hybrid ZnONâ€“Organic Light Emitting Transistors with Low Threshold Voltage <5 V. Advanced Optical Materials, 2019, 7, 1801290.	7.3	18
42	Light-Emitting Transistors with High Color Purity Using Perovskite Quantum Dot Emitters. ACS Applied Materials & Interfaces, 2020, 12, 35175-35180.	8.0	18
43	All-sputtered oxide thin-film transistors fabricated at 150 Â°C using simultaneous ultraviolet and thermal treatment. Journal of Materials Chemistry C, 2018, 6, 249-256.	5.5	17
44	Material Design of New p-Type Tin Oxyselenide Semiconductor through Valence Band Engineering and Its Device Application. ACS Applied Materials & Interfaces, 2019, 11, 40214-40221.	8.0	17
45	Band well structure with localized states for enhanced charge accumulation on Triboelectrification. Nano Energy, 2021, 90, 106647.	16.0	17
46	Molecular orbital ordering in titania and the associated semiconducting behavior. Applied Physics Letters, 2011, 99, 142104.	3.3	16
47	Semiconducting behavior of niobium-doped titanium oxide in the amorphous state. Applied Physics Letters, 2012, 100, .	3.3	16
48	Dopant-Free Hydrogenated Amorphous Silicon Thin-Film Solar Cells Using Molybdenum Oxide and Lithium Fluoride. Journal of Physical Chemistry C, 2013, 117, 23459-23468.	3.1	16
49	Characterization of Rotational Stacking Layers in Large-Area MoSe₂ Film Grown by Molecular Beam Epitaxy and Interaction with Photon. ACS Applied Materials & Interfaces, 2017, 9, 30786-30796.	8.0	16
50	Enhanced device efficiency in organic light-emitting diodes by dual oxide buffer layer. Organic Electronics, 2018, 56, 254-259.	2.6	16
51	Effect of counter-ions on the properties and performance of non-conjugated polyelectrolyte interlayers in solar cell and transistor devices. RSC Advances, 2019, 9, 20670-20676.	3.6	16
52	Universal Route to Impart Orthogonality to Polymer Semiconductors for Subâ€Micrometer Tandem Electronics. Advanced Materials, 2019, 31, e1901400.	21.0	16
53	Low temperature activation of amorphous In-Ga-Zn-O semiconductors using microwave and e-beam radiation, and the associated thin film transistor properties. AIP Advances, 2019, 9, .	1.3	16
54	Roll-to-roll sputtered Si-doped In2O3/Ag/Si-doped In2O3 multilayer as flexible and transparent anodes for flexible organic solar cells. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2015, 33, 021501.	2.1	14

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55	Organic-inorganic hybrid thin film solar cells using conducting polymer and gold nanoparticles. Applied Physics Letters, 2013, 102, .	3.3	14
56	Embedment of nano-sized Ag layer into Ag-doped In2O3 films for use as highly transparent and conductive anode in organic solar cells. Applied Surface Science, 2015, 347, 88-95.	6.1	13
57	A transparent solar cell based on a mechanically exfoliated GaTe and InGaZnO pâ€“n heterojunction. Journal of Materials Chemistry C, 2017, 5, 4327-4334.	5.5	13
58	Defect states in epitaxial HfO2 films induced by atomic transport from n-GaAs (100) substrate. Journal of Applied Physics, 2011, 109, 114112.	2.5	12
59	Doping-free silicon thin film solar cells using a vanadium pentoxide window layer and a LiF/Al back electrode. Applied Physics Letters, 2013, 103, .	3.3	12
60	Low temperature processed InGaZnO oxide thin film transistor using ultra-violet irradiation. Electronic Materials Letters, 2015, 11, 360-365.	2.2	12
61	Unraveling the Issue of Ag Migration in Printable Source/Drain Electrodes Compatible with Versatile Solution-Processed Oxide Semiconductors for Printed Thin-Film Transistor Applications. ACS Applied Materials & Interfaces, 2017, 9, 14058-14066.	8.0	12
62	Enhanced leakage current properties of Ni-doped Ba0.6Sr0.4TiO3 thin films driven by modified band edge state. Journal of Applied Physics, 2010, 107, 024109.	2.5	11
63	Improved charge balance in phosphorescent organic light-emitting diodes by different ultraviolet ozone treatments on indium tin oxide. Organic Electronics, 2018, 61, 343-350.	2.6	11
64	Enhancing the performance of tungsten doped InZnO thin film transistors via sequential ambient annealing. Applied Physics Letters, 2018, 112, .	3.3	10
65	Dynamics of bias instability in the tungsten-indium-zinc oxide thin film transistor. Journal of Materials Chemistry C, 2019, 7, 1006-1013.	5.5	10
66	Replacement of n-type layers with a non-toxic APTES interfacial layer to improve the performance of amorphous Si thin-film solar cells. RSC Advances, 2019, 9, 7536-7542.	3.6	10
67	Tungsten-Doped Zinc Oxide and Indiumâ€“Zinc Oxide Films as High-Performance Electron-Transport Layers in Nâ€“Iâ€“P Perovskite Solar Cells. Polymers, 2020, 12, 737.	4.5	10
68	Modification of the electronic structure and the electrical properties of ZnO thin films by nickel-ion irradiation at room temperature. Journal of the Korean Physical Society, 2016, 68, 190-194.	0.7	9
69	Significant enhancement of the bias stability of Zn-O-N thin-film transistors via Si doping. Scientific Reports, 2020, 10, 719.	3.3	9
70	Hall mobility manipulation in TiO2â^'x semiconductor films by hydrogen-ion irradiation. Journal of the Korean Physical Society, 2013, 62, 781-786.	0.7	8
71	Improved Field-Effect Mobility of Inâ€“Gaâ€“Znâ€“O TFTs by Oxidized Metal Layer. IEEE Transactions on Electron Devices, 2020, 67, 4924-4928.	3.0	8
72	Enhancement of the hall mobility in hydrogen-ion-irradiated ZnO films. Journal of the Korean Physical Society, 2012, 60, 307-310.	0.7	7

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73	Parabolic behavior of solution processed ZnSnO device performances depending on Zn/Sn ratios. Journal of Electroceramics, 2014, 32, 319-323.	2.0	7
74	Effects of spontaneous nitrogen incorporation by a 4H-SiC(0001) surface caused by plasma nitridation. Journal of Materials Chemistry C, 2015, 3, 5078-5088.	5.5	7
75	Reduction of defect states in atomic-layered HfO2 film on SiC substrate using post-nitridation annealing. Thin Solid Films, 2018, 645, 102-107.	1.8	7
76	Multi-level characteristics of TiOx transparent non-volatile resistive switching device by embedding SiO2 nanoparticles. Scientific Reports, 2021, 11, 9883.	3.3	7
77	Interface engineering for a stable chemical structure of oxidized-black phosphorus via self-reduction in AlO_x atomic layer deposition. Nanoscale, 2018, 10, 22896-22907.	5.6	6
78	Wire-based triboelectric resonator for a self-powered crack monitoring system. Nano Energy, 2020, 71, 104615.	16.0	6
79	Hydrogen Behavior in Top Gate Amorphous Inâ€“Gaâ€“Znâ€“O Device Fabrication Process During Gate Insulator Deposition and Gate Insulator Etching. IEEE Transactions on Electron Devices, 2021, 68, 2723-2728.	3.0	6
80	Quantitative analysis of defect states in amorphous InGaZnO thin-film transistors using photoinduced current transient spectroscopy. Journal of Applied Physics, 2021, 130, .	2.5	6
81	High Mobility and Stability of Thin-Film Transistors Using Silicon-Doped Amorphous Indium Tin Oxide Semiconductors. Journal of Electronic Materials, 2014, 43, 3177-3183.	2.2	5
82	Suppressed ionic contamination of LiNi0.5Mn1.5O4 with a Pt/ITO/stainless steel multilayer current collector. Ceramics International, 2018, 44, 20093-20104.	4.8	5
83	Depth-resolved correlation between physical and electrical properties of stressed SiNx gate insulator films. Journal of Electroceramics, 2011, 26, 63-67.	2.0	4
84	Device instability of postannealed TiOx thin-film transistors under gate bias stresses. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2013, 31, 021204.	1.2	4
85	Wettability conversion of an aluminum-hydroxide nanostructure by ion implantation. Journal of the Korean Physical Society, 2016, 68, 1024-1028.	0.7	4
86	Extremely Low-Cost, Scalable Oxide Semiconductors Employing Poly(acrylic acid)-Decorated Carbon Nanotubes for Thin-Film Transistor Applications. ACS Applied Materials & Interfaces, 2016, 8, 29858-29865.	8.0	4
87	Properties of Vanadium-Doped Indium Oxide Deposited at Room Temperature as Transparent Conductor for Inverted Polymer Solar Cells. Journal of Electronic Materials, 2017, 46, 5797-5803.	2.2	3
88	Semiconducting Properties of Swift Au Ion-Irradiated ZnO Thin Films at Room Temperature. Journal of Electronic Materials, 2017, 46, 1210-1214.	2.2	3
89	The effect of introducing antibiotics into organic light-emitting diodes. Communications Physics, 2019, 2, .	5.3	3
90	Improvement of Electrical Performance by Neutron Irradiation Treatment on IGZO Thin Film Transistors. Coatings, 2020, 10, 147.	2.6	3

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91	Highly efficient hybrid light-emitting transistors incorporating MoO_x/Ag/MoO_x semi-transparent electrodes. Journal of Materials Chemistry C, 2022, 10, 880-885.	5.5	3
92	Controlling resistive switching behavior in the solution processed SiO2-x device by the insertion of TiO2 nanoparticles. Scientific Reports, 2022, 12, 8405.	3.3	3
93	The origin of evolutionary device performance for GeGaInOx thin film transistor as a function of process pressure. Journal of Electroceramics, 2015, 34, 229-235.	2.0	2
94	Optimization of the electrical and optical properties of vanadium doped InZnO thin films. Applied Physics Letters, 2018, 113, 121905.	3.3	2
95	In-Situ Investigation of the Gate Bias Instability of Tungsten-Doped Indium Zinc Oxide Thin Film Transistor by Simultaneous Ultraviolet and Thermal Treatment. IEEE Transactions on Electron Devices, 2021, 68, 3851-3856.	3.0	2
96	Facile Modulation of Electrical Properties on Al doped ZnO by Hydrogen Peroxide Immersion Process at Room Temperature. Applied Science and Convergence Technology, 2017, 26, 43-46.	0.9	2
97	Enhancement of Electrical Properties of TiO2â^'x Oxide Semiconductor by d-Orbital Ordering Using Swift Heavy Ni-Ion Irradiation at Room Temperature. Journal of Electronic Materials, 2017, 46, 1300-1306.	2.2	1
98	Effect of interfacial reactions between atomic-layer-deposited HfO2 films and n-GaAs (100) substrate using postnitridation with NH3 vapor. Applied Physics Letters, 2010, 97, 092113.	3.3	0
99	Organic Electronics: Universal Route to Impart Orthogonality to Polymer Semiconductors for Subâ€Micrometer Tandem Electronics (Adv. Mater. 28/2019). Advanced Materials, 2019, 31, 1970204.	21.0	0