Sang Yeol Lee

List of Publications by Year
in descending order

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85 papers	1,714 citations	279798 23 h-index	289244 40 g-index
87 all docs	87 docs citations	87 times ranked	1451 citing authors

#	Article	IF	Citations
1	High-Performance a-IGZO TFT With $hbox{ZrO}_{2}$ Gate Dielectric Fabricated at Room Temperature. IEEE Electron Device Letters, 2010, 31, 225-227.	3.9	253
2	High stability of amorphous hafnium-indium-zinc-oxide thin film transistor. Applied Physics Letters, 2010, 96, .	3.3	122
3	Effect of channel thickness on density of states in amorphous InGaZnO thin film transistor. Applied Physics Letters, 2011, 98, .	3.3	104
4	Amorphous siliconâ€“indiumâ€“zinc oxide semiconductor thin film transistors processed below 150â€‰Â°C. Applied Physics Letters, 2010, 97, .	3.3	86
5	Efficient suppression of charge trapping in ZnO-based transparent thin film transistors with novel Al2O3âˆ•HfO2âˆ•Al2O3 structure. Applied Physics Letters, 2008, 92, .	3.3	76
6	Heat generation properties of Ga doped ZnO thin films prepared by rf-magnetron sputtering for transparent heaters. Thin Solid Films, 2008, 516, 1330-1333.	1.8	61
7	Effect of hafnium addition on Zn-Sn-O thin film transistors fabricated by solution process. Applied Physics Letters, 2012, 100, .	3.3	56
8	Enhancement of Electrical Stability in Oxide Thin-Film Transistors Using Multilayer Channels Grown by Atomic Layer Deposition. IEEE Transactions on Electron Devices, 2014, 61, 73-78.	3.0	52
9	Role of silicon in silicon-indium-zinc-oxide thin-film transistor. Applied Physics Letters, 2010, 97, .	3.3	51
10	Color-selective photodetection from intermediate colloidal quantum dots buried in amorphous-oxide semiconductors. Nature Communications, 2017, 8, 840.	12.8	47
11	Nanofloating Gate Memory Devices Based on Controlled Metallic Nanoparticle-Embedded InGaZnO TFTs. IEEE Electron Device Letters, 2010, 31, 1134-1136.	3.9	44
12	Comprehensive Review on Amorphous Oxide Semiconductor Thin Film Transistor. Transactions on Electrical and Electronic Materials, 2020, 21, 235-248.	1.9	43
13	Origin of threshold voltage shift by interfacial trap density in amorphous InGaZnO thin film transistor under temperature induced stress. Applied Physics Letters, 2011, 99, .	3.3	41
14	Flexible artificial Si-In-Zn-O/ion gel synapse and its application to sensory-neuromorphic system for sign language translation. Science Advances, 2021, 7, eabg9450.	10.3	41
15	Engineering of band gap states of amorphous SiZnSnO semiconductor as a function of Si doping concentration. Scientific Reports, 2016, 6, 36504.	3.3	40
16	Influence of growth temperature on the electrical and structural characteristics of conductive Al-doped ZnO thin films grown by atomic layer deposition. Thin Solid Films, 2013, 545, 106-110.	1.8	37
17	Role of Si as carrier suppressor in amorphous Znâ€“Snâ€“O. Current Applied Physics, 2012, 12, S12-S16.	2.4	36
18	High performance of full swing logic inverter using all n-types amorphous ZnSnO and SiZnSnO thin film transistors. Applied Physics Letters, 2015, 106, .	3.3	36

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19	Controllability of threshold voltage in Ag-doped ZnO nanowire field effect transistors by adjusting the diameter of active channel nanowire. Applied Physics Letters, 2010, 96, .	3.3	31
20	Full swing logic inverter with amorphous SiInZnO and GaInZnO thin film transistors. Applied Physics Letters, 2012, 101, 092103.	3.3	31
21	First-principle study of amorphous SiZnSnO thin-film transistor with excellent stability. Thin Solid Films, 2013, 534, 609-613.	1.8	29
22	Effect of Si on the Energy Band Gap Modulation and Performance of Silicon Indium Zinc Oxide Thin-Film Transistors. Scientific Reports, 2017, 7, 15392.	3.3	29
23	Role of metal capping layer on highly enhanced electrical performance of In-free Siâ€“Znâ€“Snâ€“O thin film transistor. Thin Solid Films, 2015, 594, 293-298.	1.8	28
24	Direct investigation on energy bandgap of Si added ZnSnO system for stability enhancement by X-ray photoelectron spectroscopy. Journal of Alloys and Compounds, 2017, 715, 9-15.	5.5	22
25	Mechanism of carrier controllability with metal capping layer on amorphous oxide SiZnSnO semiconductor. Scientific Reports, 2019, 9, 886.	3.3	22
26	Origin of instability by positive bias stress in amorphous Si-In-Zn-O thin film transistor. Applied Physics Letters, 2011, 99, .	3.3	21
27	Influence of a highly doped buried layer for HfInZnO thin-film transistors. Semiconductor Science and Technology, 2012, 27, 012001.	2.0	19
28	Influence of Channel Layer Thickness on the Instability of Amorphous SiZnSnO Thin Film Transistors Under Negative Bias Temperature Stress. Physica Status Solidi (A) Applications and Materials Science, 2018, 215, 1700698.	1.8	15
29	Investigation on energy bandgap states of amorphous SiZnSnO thin films. Scientific Reports, 2019, 9, 19246.	3.3	15
30	Temperature stress on pristine ZnO nanowire field effect transistor. Applied Physics Letters, 2011, 98, 113109.	3.3	14
31	Full swing depletion-load inverter with amorphous SiZnSnO thin film transistors. Physica Status Solidi (A) Applications and Materials Science, 2017, 214, 1600469.	1.8	14
32	Systematic investigation on the effect of contact resistance on the performance of aâ€IGZO thinâ€film transistors with various geometries of electrodes. Physica Status Solidi (A) Applications and Materials Science, 2010, 207, 1694-1697.	1.8	13
33	Variation of optical and electrical properties of amorphous Inâ€“Gaâ€“Znâ€“O/Ag/amorphous Inâ€“Gaâ€“Znâ€“O depending on Ag thickness. Thin Solid Films, 2013, 536, 327-329.	1.8	13
34	Effects of change of oxygen vacancy on hysteresis voltage and stability under time-temperature dependence positive bias stress in amorphous SZTO transistors. Microelectronic Engineering, 2022, 253, 111678.	2.4	12
35	Transparent heater with meshed amorphous oxide/metal/amorphous oxide for electric vehicle applications. Scientific Reports, 2020, 10, 9697.	3.3	10
36	Simulation and optimization of layer thickness of amorphous oxide SIZO/Ag/SIZO multilayer to enhance transmittance of transparent electrodes without sacrificing sheet resistance. Journal of Alloys and Compounds, 2019, 798, 622-627.	5.5	8

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37	Effect of channel thickness on the electrical performance and the stability of amorphous SiZnSnO thin film transistor. Materials Science in Semiconductor Processing, 2020, 117, 105183.	4.0	8
38	Investigation of addition of silicon on the electrical properties of low temperature solution processed SiInZnO thin film transistor. Journal of Sol-Gel Science and Technology, 2015, 74, 482-487.	2.4	7
39	Effect of Oxygen Pressure on Electrical Property of a-SZTO Thin Film Transistor. Transactions on Electrical and Electronic Materials, 2018, 19, 423-427.	1.9	7
40	Temperature-Dependent Electrical Characterization of Amorphous Indium Zinc Oxide Thin-Film Transistors. IEEE Transactions on Electron Devices, 2017, 64, 3183-3188.	3.0	6
41	Metal Capping on Silicon Indium Zinc Oxide Semiconductor for High Performance Thin Film Transistors Processed at 150 Â°C. Journal of Nanoscience and Nanotechnology, 2017, 17, 3397-3400.	0.9	6
42	Dependency of Si Content on the Performance of Amorphous SiZnSnO Thin Film Transistor Based Logic Circuits for Next-Generation Integrated Circuits. Transactions on Electrical and Electronic Materials, 2019, 20, 175-180.	1.9	6
43	Characteristics and Electronic Band Alignment of a Transparent p-CuI/n-SiZnSnO Heterojunction Diode with a High Rectification Ratio. Nanomaterials, 2021, 11, 1237.	4.1	6
44	Investigation of the Contact Resistance Between Amorphous Silicon-Zinc-Tin-Oxide Thin Film Transistors and Different Electrodes Using the Transmission Line Method. Transactions on Electrical and Electronic Materials, 2016, 17, 46-49.	1.9	6
45	Variation of subthreshold swing of solution-processed Zr-Si-In-Zn-O thin film transistor at low annealing temperature. Electronic Materials Letters, 2013, 9, 489-491.	2.2	5
46	Investigation on mechanism for instability under drain current stress in amorphous Siâ€“Inâ€“Znâ€“O thin-film transistors. Thin Solid Films, 2013, 527, 314-317.	1.8	5
47	Investigation on the variation of channel resistance and contact resistance of SiZnSnO semiconductor depending on Si contents using transmission line method. Solid-State Electronics, 2018, 139, 15-20.	1.4	5
48	Investigation on trap density depending on Si ratio in amorphous SiZnSnO thin-film transistors. Physica B: Condensed Matter, 2019, 574, 311629.	2.7	5
49	Investigation on the improvement of stability of nitrogen doped amorphous SiInZnO thin-film transistors. Solid-State Electronics, 2019, 158, 59-63.	1.4	5
50	Mechanism of Extraordinary High Mobility in Multilayered Amorphous Oxide Thin Film Transistor. IEEE Transactions on Electron Devices, 2021, 68, 5618-5622.	3.0	5
51	Scaling down of amorphous indium gallium zinc oxide thin film transistors on the polyethersulfone substrate employing the protection layer of parylene-C for the large-scale integration. Applied Physics Letters, 2010, 96, 243504.	3.3	4
52	Effect of Nitrogen Doping on the Electrical Performance of Amorphous Siâ€“Inâ€“Znâ€“O Thin Film Inverter. Transactions on Electrical and Electronic Materials, 2019, 20, 12-15.	1.9	4
53	Electrical and Optical Properties of Flexible SiInZnO/Ag/SiInZnO Multilayer Electrodes. Transactions on Electrical and Electronic Materials, 2020, 21, 117-122.	1.9	4
54	Thin Film Logic Circuits with Amorphous SiInZnO Channel Layer Annealed at Different Atmospheres for Nextâ€Generation Integrated Circuits. Physica Status Solidi (A) Applications and Materials Science, 2018, 215, 1700732.	1.8	3

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55	Optical and Electrical Properties of Highly Transparent Inâ€“Znâ€“O/Ag/Inâ€“Znâ€“O Multilayers Deposited At Room Temperature. Transactions on Electrical and Electronic Materials, 2018, 19, 212-214.	1.9	3
56	Low-Temperature-Processed SiInZnO Thin-Film Transistor Fabricated by Radio Frequency Magnetron Sputtering. Transactions on Electrical and Electronic Materials, 2018, 19, 218-221.	1.9	3
57	Ag Layer Thickness Dependency of Electrical and Optical Properties of SiZnSnO/Ag/SiZnSnO Multilayer for High Performance and In-Free Transparent Conducting Electrode. Transactions on Electrical and Electronic Materials, 2019, 20, 417-419.	1.9	3
58	Electrode-Adaptive Thin-Film Integrated Logic Circuits. IEEE Transactions on Electron Devices, 2019, 66, 957-962.	3.0	3
59	Investigation on the change of the performance of Si-Zn-Sn-O thin film transistors under negative bias temperature stress depending on the channel thickness. Solid-State Electronics, 2019, 153, 93-98.	1.4	3
60	Investigation on Hump Mechanism in Amorphous SiZnSnO Thinâ€Film Transistor Depending on Si Concentration. Physica Status Solidi (A) Applications and Materials Science, 2020, 217, 1900953.	1.8	3
61	High Sensitivity of HCl Gas Sensor Based on Pentacene Organic Field-Effect Transistor. Transactions on Electrical and Electronic Materials, 2021, 22, 140-145.	1.9	3
62	Ammonia Gas Sensing Properties of 6,13-Bis(tri-isopropylsilyethynyl) Pentacene Based Field-Effect Transistor. Transactions on Electrical and Electronic Materials, 2022, 23, 182-186.	1.9	3
63	Pâ€23: High Onâ€Current aâ€IGZO TFT. Digest of Technical Papers SID International Symposium, 2009, 40, 1163-1165.	0.3	2
64	Effect of Carrier Diffusion on Optical Bandgap Design of Metal Oxide/Metal/Metal Oxide Multilayer. Transactions on Electrical and Electronic Materials, 2019, 20, 564-568.	1.9	2
65	High Performance of Cost-Effective Low-E Coating on Flexible PET Substrate with Transparent Amorphous Oxide Semiconductor. Transactions on Electrical and Electronic Materials, 2019, 20, 554-557.	1.9	2
66	Transmission Line Method Analysis on the Electrical Properties of Bi-Layer Channel Oxide Thin Film Transistors with Oxide-Metal-Oxide Electrodes. Transactions on Electrical and Electronic Materials, 2020, 21, 612-616.	1.9	2
67	Influence of Siâ€“Inâ€“Znâ€“O/Ag/Siâ€“Inâ€“Znâ€“O Electrode on Amorphous Siâ€“Znâ€“Snâ€“O Thin Film Transistors. Transactions on Electrical and Electronic Materials, 2021, 22, 103-107.	1.9	2
68	Thin Film Logic Circuit with Metal Capping Layered amorphous SiZnSnO thin-film transistors. , 2018, , .		1
69	Effect of RF Sputtering Power on the Electrical Properties of Siâ€“Inâ€“Znâ€“O Thin Film Transistors. Transactions on Electrical and Electronic Materials, 2019, 20, 518-521.	1.9	1
70	Development of Amorphous SIZO/Ag/Amorphous SIZO Multilayer for High-Performance Transparent Conducting Electrode by Controlling Ag Layer Thickness. Journal of Nanoscience and Nanotechnology, 2019, 19, 1755-1758.	0.9	1
71	Optimized Design of SiInZnO/Ag/SiInZnO Transparent Conductive Electrode by Using Optical Admittance Simulation. Transactions on Electrical and Electronic Materials, 2020, 21, 324-328.	1.9	1
72	Oxygen Vacancy Controlled SiZnSnO Thinâ€Film Inverters with High Gain. Physica Status Solidi (A) Applications and Materials Science, 2020, 217, 1900978.	1.8	1

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73	Effect of Silicon Doping on the Electrical Performance of Amorphous SiInZnO Thin-film Transistors. Transactions on Electrical and Electronic Materials, 2021, 22, 133-139.	1.9	1
74	Derivation of Dielectric Constant and Debye Length of Amorphous Siâ€“Inâ€“Znâ€“O by Analyzing Optical Coefficients. Transactions on Electrical and Electronic Materials, 2021, 22, 378-381.	1.9	1
75	Layer Thickness Dependency of Oxideâ€“Metalâ€“Oxide Electrode on the Electrical Performance of Oxide Thin Film Transistors. Transactions on Electrical and Electronic Materials, 2021, 22, 593-597.	1.9	1
76	Realization of Inverter and Logic Circuit Using Amorphous Siâ€“Inâ€“Znâ€“O Thin Film Transistor. Transactions on Electrical and Electronic Materials, 2021, 22, 598-602.	1.9	1
77	Electrical and photoelectrical properties of p-SWNT/n-ZnO heterojunction structure. , 2010, , .		0
78	Effect of Annealing Temperature on Electrical Properties and Stability of Siâ€“Znâ€“Snâ€“O Thin Film Transistors Under Temperature Stress. Transactions on Electrical and Electronic Materials, 2018, 19, 15-19.	1.9	0
79	Effect of Annealing Temperature on Enhancement of Electrical Performance and Stability of Amorphous SiZnSnO Thin Film Transistors. Transactions on Electrical and Electronic Materials, 2018, 19, 47-51.	1.9	0
80	Effect of Carrier Diffusion on the Electrical Properties of Siâ€“Znâ€“Snâ€“O/Ag/Siâ€“Znâ€“Snâ€“O Multilayers. Transactions on Electrical and Electronic Materials, 2018, 19, 215-217.	1.9	0
81	Amorphous Siâ€“Znâ€“Snâ€“O Thin Film Transistor with Inâ€“Siâ€“O as Transparent Conducting Electrodes. Transactions on Electrical and Electronic Materials, 2019, 20, 371-374.	1.9	0
82	Effect of Carrier Diffusion on the Optical Property in Siâ€“Inâ€“Znâ€“O/Ag/Siâ€“Inâ€“Znâ€“O Optical Media. Transactions on Electrical and Electronic Materials, 2020, 21, 599-605.	1.9	0
83	Electrical Performance of Amorphous Oxide/Colloidal Quantum Dot/Amorphous Oxide Hybrid Thin Film Transistor. Transactions on Electrical and Electronic Materials, 2022, 23, 25.	1.9	0
84	Mechanism of Non-Ideal Transfer Characteristic at Low Drain Voltage in Metal-Capped Amorphous Oxide Thin Film Transistor. IEEE Journal of the Electron Devices Society, 2022, 10, 40-44.	2.1	0
85	Investigation of the Stability and the Transparency of Oxide Thin Film Transistor with bi-Layer Channels and Oxide/Metal/Oxide Multilayer Source/Drain Electrodes. Transactions on Electrical and Electronic Materials, 2022, 23, 187-192.	1.9	0