

Sunghwan Lee

List of Publications by Year in descending order

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64
papers

1,511
citations

393982

19
h-index

315357

38
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64
all docs

64
docs citations

64
times ranked

1940
citing authors

#	ARTICLE	IF	CITATIONS
1	Amorphous IZO-based transparent thin film transistors. <i>Thin Solid Films</i> , 2008, 516, 5894-5898.	0.8	214
2	25th Anniversary Article: CVD Polymers: A New Paradigm for Surface Modification and Device Fabrication. <i>Advanced Materials</i> , 2013, 25, 5392-5423.	11.1	211
3	High electrical conductivity and carrier mobility in <i>o</i> CVD PEDOT thin films by engineered crystallization and acid treatment. <i>Science Advances</i> , 2018, 4, eaat5780.	4.7	167
4	A Facile Solution-Phase Approach to Transparent and Conducting ITO Nanocrystal Assemblies. <i>Journal of the American Chemical Society</i> , 2012, 134, 13410-13414.	6.6	118
5	A study of the specific contact resistance and channel resistivity of amorphous IZO thin film transistors with IZO source-drain metallization. <i>Journal of Applied Physics</i> , 2011, 109, .	1.1	67
6	Binder-free printed PEDOT wearable sensors on everyday fabrics using oxidative chemical vapor deposition. <i>Science Advances</i> , 2021, 7, eabj8958.	4.7	57
7	Enhanced Optical Property with Tunable Band Gap of Cross-linked PEDOT Copolymers via Oxidative Chemical Vapor Deposition. <i>Advanced Functional Materials</i> , 2015, 25, 85-93.	7.8	55
8	Heavily Doped poly(3,4-ethylenedioxythiophene) Thin Films with High Carrier Mobility Deposited Using Oxidative CVD: Conductivity Stability and Carrier Transport. <i>Advanced Functional Materials</i> , 2014, 24, 7187-7196.	7.8	49
9	Identification of the native defect doping mechanism in amorphous indium zinc oxide thin films studied using ultra high pressure oxidation. <i>Applied Physics Letters</i> , 2013, 102, .	1.5	44
10	Optoelectronic properties of polythiophene thin films and organic TFTs fabricated by oxidative chemical vapor deposition. <i>Journal of Materials Chemistry C</i> , 2014, 2, 7223.	2.7	38
11	Work function investigations of Al-doped ZnO for band-alignment in electronic and optoelectronic applications. <i>Applied Surface Science</i> , 2019, 484, 990-998.	3.1	37
12	Amorphous structure and electrical performance of low-temperature annealed amorphous indium zinc oxide transparent thin film transistors. <i>Thin Solid Films</i> , 2012, 520, 3764-3768.	0.8	32
13	Low Substrate Temperature Encapsulation for Flexible Electrodes and Organic Photovoltaics. <i>Advanced Energy Materials</i> , 2015, 5, 1401442.	10.2	28
14	Obtaining a Low and Wide Atomic Layer Deposition Window (150–275°C) for In_2O_3 Films Using an In^{III} Amidinate and H_2O . <i>Chemistry - A European Journal</i> , 2018, 24, 9525-9529.	1.7	28
15	The effect of growth temperature on physical properties of heavily doped ZnO:Al films. <i>Physica Status Solidi (A) Applications and Materials Science</i> , 2009, 206, 697-703.	0.8	27
16	The effect of metallization contact resistance on the measurement of the field effect mobility of long-channel unannealed amorphous In_2O_3 thin film transistors. <i>Thin Solid Films</i> , 2012, 520, 3769-3773.	0.8	25
17	Ultrahigh active material content and highly stable Ni-rich cathode leveraged by oxidative chemical vapor deposition. <i>Energy Storage Materials</i> , 2022, 48, 1-11.	9.5	23
18	On the effect of Ti on the stability of amorphous indium zinc oxide used in thin film transistor applications. <i>Applied Physics Letters</i> , 2011, 98, .	1.5	21

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19	Channel scaling and field-effect mobility extraction in amorphous InZnO thin film transistors. Solid-State Electronics, 2017, 135, 94-99.	0.8	21
20	Metallization strategies for In ₂ O ₃ -based amorphous oxide semiconductor materials. Journal of Materials Research, 2012, 27, 2299-2308.	1.2	20
21	Structural and electrical properties of transparent conducting Al ₂ O ₃ -doped ZnO thin films using off-axis DC magnetron sputtering. Materials Letters, 2012, 85, 88-90.	1.3	20
22	Factors controlling conductivity of PEDOT deposited using oxidative chemical vapor deposition. Applied Surface Science, 2020, 501, 144105.	3.1	20
23	The role of third cation doping on phase stability, carrier transport and carrier suppression in amorphous oxide semiconductors. Journal of Materials Chemistry C, 2020, 8, 13798-13810.	2.7	18
24	Membrane crystallinity and fuel crossover in direct ethanol fuel cells with Nafion composite membranes containing phosphotungstic acid. Journal of Materials Science, 2017, 52, 2400-2412.	1.7	17
25	Effects of membrane thickness on the performance of ionic polymer-metal composite actuators. RSC Advances, 2019, 9, 14621-14626.	1.7	16
26	Air-stable polythiophene-based thin film transistors processed using oxidative chemical vapor deposition: Carrier transport and channel/metallization contact interface. Organic Electronics, 2016, 33, 253-262.	1.4	15
27	Midwavelength Infrared π -n Heterojunction Diodes Based on Intraband Colloidal Quantum Dots. ACS Applied Materials & Interfaces, 2021, 13, 49043-49049.	4.0	14
28	Metallization selection and the performance of amorphous In-Zn-O thin film transistors. Applied Physics Letters, 2014, 104, .	1.5	11
29	Nanostructured Unsubstituted Polythiophene Films Deposited Using Oxidative Chemical Vapor Deposition: Hopping Conduction and Thermal Stability. Advanced Materials Interfaces, 2018, 5, 1701513.	1.9	10
30	Factors Determining the Resistive Switching Behavior of Transparent InGaZnO-Based Memristors. Physica Status Solidi - Rapid Research Letters, 2022, 16, .	1.2	10
31	Cerium silicate-based thin-film apatites: high conductivity and solid oxide fuel cell application. MRS Communications, 2017, 7, 199-205.	0.8	8
32	Layer-resolved release of epitaxial layers in III-V heterostructure via a buffer-free mechanical separation technique. Science Advances, 2022, 8, eabl6406.	4.7	7
33	Enhancement of thermal and mechanical stabilities of silicon doped titanium nitride coating by manipulation of sputtering conditions. Journal of Materials Research and Technology, 2022, 17, 1122-1131.	2.6	7
34	Hybrid Silicon-Polymer Photodetector Engineered Using Oxidative Chemical Vapor Deposition for High-Performance and Bias-Switchable Multi-Functionality. Advanced Functional Materials, 2022, 32, .	7.8	7
35	High temperature in-situ phase stability of sputtered TiAl _x N coatings. Journal of Alloys and Compounds, 2019, 786, 507-514.	2.8	6
36	Pseudo wastewater treatment by combining adsorption and phytoaccumulation on the <i>Acrostichum aureum</i> Linn. plant/activated carbon system. International Journal of Phytoremediation, 2021, 23, 300-306.	1.7	6

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37	Carrier Density-Tunable Work Function Buffer at the Channel/Metallization Interface for Amorphous Oxide Thin-Film Transistors. ACS Applied Electronic Materials, 2021, 3, 2703-2711.	2.0	5
38	High temperature (up to 1200°C) thermal-mechanical stability of Si and Ni doped CrN framework coatings. Journal of Materials Research and Technology, 2021, 14, 2406-2419.	2.6	5
39	Effect of O ₂ Fraction in the Sputter Gas on the Electrical Properties of Amorphous In-Zn-O and the Thin Film Transistor Performance. Journal of Electronic Materials, 2016, 45, 6310-6316.	1.0	4
40	Mobility of Air-Stable p-type Polythiophene Field-Effect Transistors Fabricated Using Oxidative Chemical Vapor Deposition. Journal of Electronic Materials, 2020, 49, 3465-3471.	1.0	4
41	High-Performance Oxide-Based p-n Heterojunctions Integrating p-SnO _x and n-InGaZnO. ACS Applied Materials & Interfaces, 2021, 13, 55676-55686.	4.0	4
42	Effects of Thermally Induced Phase Transition on the Negative Thermo-Optic Properties of Atomic-Layer-Deposited TiO ₂ Films. ACS Applied Electronic Materials, 2022, 4, 651-662.	2.0	4
43	Origin of an unintended increase in carrier density of ternary cation-based amorphous oxide semiconductors. Applied Surface Science, 2021, 556, 149676.	3.1	3
44	Thin Film Oxy-Apatite Anodes for Solid Oxide Fuel Cells. Journal of the Electrochemical Society, 2016, 163, F719-F727.	1.3	2
45	Simultaneous Extraction of the Grain Size, Single-Crystalline Grain Sheet Resistance, and Grain Boundary Resistivity of Polycrystalline Monolayer Graphene. Nanomaterials, 2022, 12, 206.	1.9	2
46	The Effect of Bias Stress on the Performance of Amorphous InAlZnO-Based Thin Film Transistors. Journal of Electronic Materials, 2022, 51, 1813-1819.	1.0	2
47	Organic Photovoltaic Devices: Low Substrate Temperature Encapsulation for Flexible Electrodes and Organic Photovoltaics (Adv. Energy Mater. 6/2015). Advanced Energy Materials, 2015, 5, .	10.2	1
48	Oxidative Chemical Vapor Deposition: Nanostructured Unsubstituted Polythiophene Films Deposited Using Oxidative Chemical Vapor Deposition: Hopping Conduction and Thermal Stability (Adv. Mater.)	0.0	0
49	Influence of Amorphous-to-Crystalline Transformation on the Negative Thermo-Optic Properties of TiO ₂ Films. ECS Transactions, 2021, 102, 151-158.	0.3	0
50	The Effect of Thin Interfacial Layer on the Mechanical Properties of Metal/Zerodur Heterogeneous Bonding. ECS Meeting Abstracts, 2021, MA2021-01, 2000-2000.	0.0	0
51	(Invited) Performance of Poly(3,4-ethylenedioxythiophene) Thin Films on Fabrics for Wearable Device Applications Using Oxidative Chemical Vapor Deposition. ECS Meeting Abstracts, 2021, MA2021-01, 1041-1041.	0.0	0
52	Mechanisms of Carrier Density Increase of Ternary Cation-Based Amorphous Oxide Semiconductors for Thin Film Transistor Applications. ECS Meeting Abstracts, 2021, MA2021-01, 855-855.	0.0	0
53	Influence of Amorphous-to-Crystalline Transformation on the Negative Thermo-Optic Properties of TiO ₂ Films. ECS Meeting Abstracts, 2021, MA2021-01, 1019-1019.	0.0	0
54	Bias-Modulated Multicolor Discrimination Enabled By Perovskite Photodetector with Back-to-Back Diode Configuration. ECS Meeting Abstracts, 2021, MA2021-01, 1050-1050.	0.0	0

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55	Enhanced Phase Stability and Carrier Suppression of Ternary Cation-Based Amorphous Oxide Semiconductor Thin Film Transistors. ECS Meeting Abstracts, 2021, MA2021-01, 1999-1999.	0.0	0
56	(Invited) Crystallization and Stability of Flexible P-Type Semiconductors and Their Thin Film Transistor Application. ECS Meeting Abstracts, 2020, MA2020-01, 1038-1038.	0.0	0
57	Multifunctional Conformal Polymer Coating by Oxidative Chemical Vapor Deposition for High Specific Energy Ni-Rich Cathode. ECS Meeting Abstracts, 2021, MA2021-02, 395-395.	0.0	0
58	Binder-free Printing Ultra-stable PEDOT Sensor on Multiple Fabrics Using Oxidative Chemical Vapor Deposition. ECS Meeting Abstracts, 2021, MA2021-02, 1586-1586.	0.0	0
59	Facile Processing of p-Type Oxides and Oxide-Based p-n Heterojunction Applications. ECS Meeting Abstracts, 2021, MA2021-02, 1850-1850.	0.0	0
60	Crystallization and Stability of Flexible P-Type Semiconductors and Their Thin Film Transistor Application. ECS Meeting Abstracts, 2020, MA2020-02, 1378-1378.	0.0	0
61	(Invited) Oxide Electronics and Recent Progress in Bipolar Applications. ECS Meeting Abstracts, 2022, MA2022-01, 1071-1071.	0.0	0
62	(Digital Presentation) Activating the Ion Transmission at the Cathode-Electrolyte Interface in All-Solid-State Batteries. ECS Meeting Abstracts, 2022, MA2022-01, 384-384.	0.0	0
63	(Digital Presentation) Investigation of Top Electrodes Impact on Performance of Transparent Amorphous Indium Gallium Zinc Oxide (a-InGaZnO) Based Resistive Random Access Memory. ECS Meeting Abstracts, 2022, MA2022-01, 1075-1075.	0.0	0
64	(Digital Presentation) Accelerating the Conversion Process of Polysulfides in High Mass Loading Sulfur Cathode for the Longevity Li-S Battery. ECS Meeting Abstracts, 2022, MA2022-01, 383-383.	0.0	0