

Wan Sik Hwang

List of Publications by Year in descending order

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83
papers

2,087
citations

331670

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243625

44
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85
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85
docs citations

85
times ranked

3562
citing authors

#	ARTICLE	IF	CITATIONS
1	Reversible photoinduced wettability and antimicrobial activity of Ga ₂ O ₃ thin film upon UVC irradiation. <i>Materials Chemistry and Physics</i> , 2022, 279, 125746.	4.0	4
2	Solar-Blind Ultrathin Sn-Doped Polycrystalline Ga ₂ O ₃ UV Phototransistor for Normally Off Operation. <i>Advanced Photonics Research</i> , 2022, 3, .	3.6	7
3	Synaptic Current Response of a Liquid Ga Electrode via a Surface Electrochemical Redox Reaction in a NaOH Solution. <i>ACS Omega</i> , 2022, 7, 19872-19878.	3.5	2
4	Electrical and photocurrent properties of a polycrystalline Sn-doped $\hat{\Gamma}^2$ -Ga ₂ O ₃ thin film. <i>Materials Science in Semiconductor Processing</i> , 2021, 121, 105430.	4.0	27
5	Impact of Al doping on a hydrothermally synthesized $\hat{\Gamma}^2$ -Ga ₂ O ₃ nanostructure for photocatalysis applications. <i>RSC Advances</i> , 2021, 11, 7338-7346.	3.6	20
6	Fast-Response Colorimetric UVC Sensor Made of a Ga ₂ O ₃ Photocatalyst with a Hole Scavenger. <i>Sensors</i> , 2021, 21, 387.	3.8	6
7	Hf- and Ti-Based Organic/Inorganic Hybrid Dielectrics Synthesized via Chemical Vapor Phase for Advanced Gate Stack in Flexible Electronic Devices. <i>Advanced Electronic Materials</i> , 2021, 7, 2001197.	5.1	8
8	Method to Achieve the Morphotropic Phase Boundary in Hf _x Zr _{1-x} O ₂ by Electric Field Cycling for DRAM Cell Capacitor Applications. <i>IEEE Electron Device Letters</i> , 2021, 42, 517-520.	3.9	23
9	Highly Reliable Charge Trap-Type Organic Non-Volatile Memory Device Using Advanced Band-Engineered Organic-Inorganic Hybrid Dielectric Stacks. <i>Advanced Functional Materials</i> , 2021, 31, 2103291.	14.9	7
10	Copolymer-Based Flexible Resistive Random Access Memory Prepared by Initiated Chemical Vapor Deposition Process. <i>Advanced Electronic Materials</i> , 2021, 7, 2100375.	5.1	6
11	An 8-nm-thick Sn-doped polycrystalline $\hat{\Gamma}^2$ -Ga ₂ O ₃ MOSFET with a "normally off" operation. <i>Applied Physics Letters</i> , 2021, 119, .	3.3	15
12	Highly Aligned Polymeric Nanowire Etch-Mask Lithography Enabling the Integration of Graphene Nanoribbon Transistors. <i>Nanomaterials</i> , 2021, 11, 33.	4.1	5
13	Enhanced third harmonic generation in ultrathin free-standing $\hat{\Gamma}^2$ -Ga ₂ O ₃ nanomembranes: study on surface and bulk contribution. <i>Nanoscale</i> , 2021, 14, 175-186.	5.6	1
14	Analysis of fluorine effects on charge-trap flash memory of W/TiN/Al ₂ O ₃ /Si ₃ N ₄ /SiO ₂ /poly-Si gate stack. <i>Solid-State Electronics</i> , 2020, 164, 107713.	1.4	4
15	Programming-Pulse Dependence of Ferroelectric Partial Polarization: Insights From a Comparative Study of PZT and HZO Capacitors. <i>IEEE Transactions on Electron Devices</i> , 2020, 67, 4482-4487.	3.0	7
16	Comparison of Ga ₂ O ₃ and TiO ₂ Nanostructures for Photocatalytic Degradation of Volatile Organic Compounds. <i>Catalysts</i> , 2020, 10, 545.	3.5	9
17	Hydrothermal Synthesis and Photocatalytic Property of Sn-doped $\hat{\Gamma}^2$ -Ga ₂ O ₃ Nanostructure. <i>ECS Journal of Solid State Science and Technology</i> , 2020, 9, 045009.	1.8	34
18	H ₂ High Pressure Annealed Y-Doped ZrO ₂ Gate Dielectric With an EOT of 0.57 nm for Ge MOSFETs. <i>IEEE Electron Device Letters</i> , 2019, 40, 1350-1353.	3.9	8

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19	Mechanical and Electrical Reliability Analysis of Flexible Si Complementary Metal-Oxide-Semiconductor Integrated Circuit. <i>Journal of Nanoscience and Nanotechnology</i> , 2019, 19, 6473-6480.	0.9	0
20	Room-Temperature Graphene-Nanoribbon Tunneling Field-Effect Transistors. <i>Npj 2D Materials and Applications</i> , 2019, 3, .	7.9	26
21	Ultrathin ZrO ₂ -Organic Hybrid Dielectric (EOT 3.2 nm) via Initiated Chemical Vapor Deposition for High-Performance Flexible Electronics. <i>ACS Applied Materials & Interfaces</i> , 2019, 11, 44513-44520.	8.0	26
22	Enhanced Photocatalytic Degradation of 2-Butanone Using Hybrid Nanostructures of Gallium Oxide and Reduced Graphene Oxide Under Ultraviolet-C Irradiation. <i>Catalysts</i> , 2019, 9, 449.	3.5	10
23	Influence of Self-Heating Effect on Interface Trap Generation in Highly Flexible Single-Crystalline Si Nanomembrane Transistors. <i>Journal of Nanoscience and Nanotechnology</i> , 2019, 19, 6481-6486.	0.9	1
24	Ultrathin EOT (0.67 nm) High-k Dielectric on Ge MOSFET Using Y Doped ZrO ₂ With Record-Low Leakage Current. <i>IEEE Electron Device Letters</i> , 2019, 40, 502-505.	3.9	19
25	Minimally invasive medical catheter with highly flexible FDSOI-based integrated circuits. , 2019, , .		2
26	Effect of ZrO ₂ interfacial layer on forming ferroelectric Hf _x Zr _y O _z on Si substrate. <i>AIP Advances</i> , 2019, 9, .	1.3	24
27	Enhanced Photocatalytic Activity of Electrospun $\hat{2}$ -Ga ₂ O ₃ Nanofibers via In-Situ Si Doping Using Tetraethyl Orthosilicate. <i>Catalysts</i> , 2019, 9, 1005.	3.5	10
28	Fluorine Effects Originating From the CVD-W Process on Charge-Trap Flash Memory Cells. <i>IEEE Transactions on Electron Devices</i> , 2019, 66, 378-382.	3.0	13
29	A High-Performance Top-Gated Graphene Field-Effect Transistor with Excellent Flexibility Enabled by an iCVD Copolymer Gate Dielectric. <i>Small</i> , 2018, 14, 1703035.	10.0	14
30	Amorphous Si-island/graphene oxide-carbon hybrid anode thin film for a lithium-ion battery. <i>Thin Solid Films</i> , 2018, 653, 229-235.	1.8	4
31	Formation of $\hat{2}$ -Ga ₂ O ₃ nanofibers of sub-50 nm diameter synthesized by electrospinning method. <i>Thin Solid Films</i> , 2018, 645, 358-362.	1.8	15
32	Conformal, Wafer-Scale and Controlled Nanoscale Doping of Semiconductors Via the iCVD Process. , 2018, , .		2
33	Novel Vapor-Phase Synthesis of Flexible, Homogeneous Organic-Inorganic Hybrid Gate Dielectric with sub 5 nm Equivalent Oxide Thickness. <i>ACS Applied Materials & Interfaces</i> , 2018, 10, 37326-37334.	8.0	26
34	High-Aspect Ratio $\hat{2}$ -Ga ₂ O ₃ Nanorods via Hydrothermal Synthesis. <i>Nanomaterials</i> , 2018, 8, 594.	4.1	43
35	Performance Degradation of Flexible Si Nanomembrane Transistors With Al ₂ O ₃ and SiO ₂ Dielectrics Under Mechanical Stress. <i>IEEE Transactions on Electron Devices</i> , 2018, 65, 3069-3072.	3.0	2
36	Preparation of Wrinkled Graphene Oxide Using Solution Method. <i>Journal of Nanoscience and Nanotechnology</i> , 2018, 18, 4302-4305.	0.9	2

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37	Hydrothermal Synthesis and Characteristics of LiMn_2O_4 as Cathode Materials. <i>Nanoscience and Nanotechnology Letters</i> , 2018, 10, 868-872.	0.4	0
38	A quantitative strain analysis of a flexible single-crystalline silicon membrane. <i>Applied Physics Letters</i> , 2017, 110, 033105.	3.3	10
39	Effect of Adding Cerium on Microstructure and Morphology of Ce-Based Inclusions Formed in Low-Carbon Steel. <i>Scientific Reports</i> , 2017, 7, 46503.	3.3	94
40	Reliability improvement of a flexible FD-SOI MOSFET via heat management. <i>Applied Physics Letters</i> , 2017, 110, 252101.	3.3	6
41	Enhanced performance in graphene RF transistors via advanced process integration. <i>Semiconductor Science and Technology</i> , 2017, 32, 045009.	2.0	3
42	Mechanical Stability Analysis via Neutral Mechanical Plane for High-Performance Flexible Si Nanomembrane FDSOI Device. <i>Advanced Materials Interfaces</i> , 2017, 4, 1700618.	3.7	9
43	Investigation of Border Trap Characteristics in the $\text{AlON}/\text{GeO}_2/\text{Ge}$ Gate Stacks. <i>IEEE Transactions on Electron Devices</i> , 2017, 64, 3998-4001.	3.0	2
44	The Impact of an Ultrathin Y_2O_3 Layer on GeO_2 Passivation in Ge MOS Gate Stacks. <i>IEEE Transactions on Electron Devices</i> , 2017, 64, 3303-3307.	3.0	19
45	Vertically Formed Graphene Stripe for 3D Field-Effect Transistor Applications. <i>Small</i> , 2017, 13, 1602373.	10.0	3
46	Fermi Level Depinning in $\text{Ti}/\text{GeO}_2/\text{n-Ge}$ via the Interfacial Reaction Between Ti and GeO_2 . <i>IEEE Transactions on Electron Devices</i> , 2017, 64, 4242-4245.	3.0	2
47	Compliment Graphene Oxide Coating on Silk Fiber Surface via Electrostatic Force for Capacitive Humidity Sensor Applications. <i>Sensors</i> , 2017, 17, 407.	3.8	23
48	Impedance Spectroscopy Analysis and Equivalent Circuit Modeling of Graphene Oxide Solutions. <i>Nanomaterials</i> , 2017, 7, 446.	4.1	15
49	A Zero-Power, Low-Cost Ultraviolet-C Colorimetric Sensor Using a Gallium Oxide and Reduced Graphene Oxide Hybrid via Photoelectrochemical Reactions. <i>Catalysts</i> , 2017, 7, 248.	3.5	9
50	A Gallium Oxide-Graphene Oxide Hybrid Composite for Enhanced Photocatalytic Reaction. <i>Nanomaterials</i> , 2016, 6, 127.	4.1	10
51	Large electron concentration modulation using capacitance enhancement in $\text{SrTiO}_3/\text{SmTiO}_3$ Fin-field effect transistors. <i>Applied Physics Letters</i> , 2016, 108, .	3.3	4
52	Material characteristics and equivalent circuit models of stacked graphene oxide for capacitive humidity sensors. <i>AIP Advances</i> , 2016, 6, 035203.	1.3	10
53	Thin-Film Transistors: Synthesis of Ultrathin, Homogeneous Copolymer Dielectrics to Control the Threshold Voltage of Organic Thin-Film Transistors (<i>Adv. Funct. Mater.</i> 36/2016). <i>Advanced Functional Materials</i> , 2016, 26, 6672-6672.	14.9	0
54	Synthesis of Ultrathin, Homogeneous Copolymer Dielectrics to Control the Threshold Voltage of Organic Thin-Film Transistors. <i>Advanced Functional Materials</i> , 2016, 26, 6574-6582.	14.9	38

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55	Hybrid Integration of Graphene Analog and Silicon Complementary Metal-Oxide-Semiconductor Digital Circuits. ACS Nano, 2016, 10, 7142-7146.	14.6	16
56	Valley-engineered ultra-thin silicon for high-performance junctionless transistors. Scientific Reports, 2016, 6, 29354.	3.3	2
57	Improved Drain Current Saturation and Voltage Gain in Graphene-on-Silicon Field Effect Transistors. Scientific Reports, 2016, 6, 25392.	3.3	12
58	Very Low-Work-Function ALD-Erbium Carbide (ErC_2) Metal Electrode on High- κ Dielectrics. IEEE Transactions on Electron Devices, 2016, 63, 2858-2863.	3.0	12
59	The Work Function Behavior of Aluminum-Doped Titanium Carbide Grown by Atomic Layer Deposition. IEEE Transactions on Electron Devices, 2016, 63, 1423-1427.	3.0	16
60	Improved electromigration-resistance of Cu interconnects by graphene-based capping layer. , 2015, , .		7
61	Synthesized multiwall MoS ₂ nanotube and nanoribbon field-effect transistors. Applied Physics Letters, 2015, 106, .	3.3	66
62	Graphene nanoribbon field-effect transistors on wafer-scale epitaxial graphene on SiC substrates. APL Materials, 2015, 3, .	5.1	72
63	Ultrathin graphene and graphene oxide layers as a diffusion barrier for advanced Cu metallization. Applied Physics Letters, 2015, 106, .	3.3	28
64	The Mechanism of Schottky Barrier Modulation of Tantalum Nitride/Ge Contacts. IEEE Electron Device Letters, 2015, 36, 997-1000.	3.9	21
65	A Robust Highly Aligned DNA Nanowire Array-Enabled Lithography for Graphene Nanoribbon Transistors. Nano Letters, 2015, 15, 7913-7920.	9.1	58
66	High-performance photocurrent generation from two-dimensional WS ₂ field-effect transistors. Applied Physics Letters, 2014, 104, .	3.3	88
67	Exfoliated multilayer MoTe ₂ field-effect transistors. Applied Physics Letters, 2014, 105, .	3.3	168
68	AlGaIn/GaN HEMTs on Si by MBE with regrown contacts and $f_T = 153$ GHz. Physica Status Solidi C: Current Topics in Solid State Physics, 2014, 11, 887-889.	0.8	10
69	Unraveling Oxygen Transfer at the Graphene Oxide-ZnO Nanorod Interface. Journal of Physical Chemistry C, 2014, 118, 17638-17642.	3.1	23
70	High-voltage field effect transistors with wide-bandgap In_2S_3 -Ga ₂ O ₃ nanomembranes. Applied Physics Letters, 2014, 104, .	3.3	288
71	Exfoliated MoTe ₂ field-effect transistor. , 2013, , .		3
72	Fabrication of top-gated epitaxial graphene nanoribbon FETs using hydrogen-silsesquioxane. Journal of Vacuum Science and Technology B: Nanotechnology and Microelectronics, 2012, 30, .	1.2	18

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73	First demonstration of two-dimensional WS ₂ transistors exhibiting 10 ⁵ room temperature modulation and ambipolar behavior. , 2012, , .		2
74	Transistors with chemically synthesized layered semiconductor WS ₂ exhibiting 10 ⁵ room temperature modulation and ambipolar behavior. Applied Physics Letters, 2012, 101, .	3.3	237
75	Transport properties of graphene nanoribbon transistors on chemical-vapor-deposition grown wafer-scale graphene. Applied Physics Letters, 2012, 100, .	3.3	55
76	AlGaSb/InAs Tunnel Field-Effect Transistor With On-Current of 78 $\mu\text{A}/\mu\text{m}$ at 0.5 V. IEEE Electron Device Letters, 2012, 33, 363-365.	3.9	129
77	Sub-10 nm epitaxial graphene nanoribbon FETs. , 2011, , .		2
78	The Application of Two Phase Flow Simulation to the Development of Direct Iron Ore Smelting Reduction Process. International Journal of Cast Metals Research, 2003, 15, 491-496.	1.0	1
79	Measurement of interfacial heat transfer coefficient for the evaporative pattern casting of A356 aluminium alloy. International Journal of Cast Metals Research, 2002, 15, 93-101.	1.0	2
80	Comparison of Phosphor Bronze Metal Sheet Produced by Twin Roll Casting and Horizontal Continuous Casting. Journal of Materials Engineering and Performance, 1998, 7, 495-503.	2.5	6
81	The Preparation of TiAl-Based Intermetallics from Elemental Powders through a Two-Step Pressureless Sintering Process. Journal of Materials Engineering and Performance, 1998, 7, 385-392.	2.5	19
82	Three-dimensional fluid flow model for gas-stirred ladles. Journal of Materials Engineering and Performance, 1997, 6, 311-318.	2.5	14
83	Relationship between Flow Characteristics and Surface Quality in Inclined Twin Roll Strip Casting.. ISIJ International, 1996, 36, 690-699.	1.4	17