

# Sangtae Kim

## List of Publications by Year in descending order

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91  
papers

5,120  
citations

147801

31  
h-index

85541

71  
g-index

92  
all docs

92  
docs citations

92  
times ranked

8758  
citing authors

#	ARTICLE	IF	CITATIONS
1	Space-based Earth remote sensing: Part 1. Satellite orbit theory. <i>Satellite Oceanography and Meteorology</i> , 2023, 3, .	0.2	2
2	Predicting ligand-dependent nanocrystal shapes of InP quantum dots and their electronic structures. <i>Applied Surface Science</i> , 2022, 578, 151972.	6.1	5
3	Reversible transition between the polar and antipolar phases and its implications for wake-up and fatigue in HfO <sub>2</sub> -based ferroelectric thin film. <i>Nature Communications</i> , 2022, 13, 645.	12.8	66
4	The Contrasting Impacts of the Al <sub>2</sub> O <sub>3</sub> and Y <sub>2</sub> O <sub>3</sub> Insertion Layers on the Crystallization of ZrO <sub>2</sub> Films for Dynamic Random Access Memory Capacitors. <i>Advanced Electronic Materials</i> , 2022, 8, .	5.1	4
5	Atomistic prediction on the configuration- and temperature-dependent dielectric constant of Be <sub>0.25</sub> Mg <sub>0.75</sub> O superlattice as a high- $\epsilon_r$ dielectric layer. <i>Journal of Materials Chemistry C</i> , 2021, 9, 851-859.	5.5	7
6	Atomistic Understanding of the Ferroelectric Properties of a Wurtzite $\text{AlN}/\text{ScN}$ Superlattice. <i>Physica Status Solidi - Rapid Research Letters</i> , 2021, 15, 2100009.	2.4	14
7	Tunable current duration in triboelectric generators via capacitive air gaps. <i>International Journal of Energy Research</i> , 2021, 45, 5619-5628.	4.5	3
8	Atomic engineering of metastable BeO <sub>6</sub> octahedra in a rocksalt framework. <i>Applied Surface Science</i> , 2020, 501, 144280.	6.1	8
9	Machine Learning and Scaling Laws for Prediction of Accurate Adsorption Energy. <i>Journal of Physical Chemistry A</i> , 2020, 124, 247-254.	2.5	32
10	Small-Satellite Synthetic Aperture Radar for Continuous Global Biospheric Monitoring: A Review. <i>Remote Sensing</i> , 2020, 12, 2546.	4.0	42
11	Sun-synchronous repeat ground tracks and other useful orbits for future space missions. <i>Aeronautical Journal</i> , 2020, 124, 917-939.	1.6	6
12	Design principles for coupled piezoelectric and electromagnetic hybrid energy harvesters for autonomous sensor systems. <i>Nano Energy</i> , 2020, 75, 104921.	16.0	33
13	Automatic resonance tuning mechanism for ultra-wide bandwidth mechanical energy harvesting. <i>Nano Energy</i> , 2020, 77, 104986.	16.0	43
14	Optimal Endurance and Range of Electric Aircraft with Battery Degradation. <i>Transactions of the Japan Society for Aeronautical and Space Sciences</i> , 2020, 63, 62-65.	0.7	5
15	Ionic-Activated Chemiresistive Gas Sensors for Room-Temperature Operation. <i>Small</i> , 2019, 15, e1902065.	10.0	34
16	Rational Design for Optimizing Hybrid Thermo-triboelectric Generators Targeting Human Activities. <i>ACS Energy Letters</i> , 2019, 4, 2069-2074.	17.4	37
17	Strong stress-composition coupling in lithium alloy nanoparticles. <i>Nature Communications</i> , 2019, 10, 3428.	12.8	13
18	A First-Principles Study on the Oxygen Adsorption and Interface Characteristics with $\alpha$ -GeO <sub>2</sub> of Ge[001] Nanowire. <i>Journal of the Korean Physical Society</i> , 2019, 75, 283-287.	0.7	0

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19	Sensors/Biosensors: Ionic-Activated Chemiresistive Gas Sensors for Room-Temperature Operation (Small 40/2019). Small, 2019, 15, 1970214.	10.0	0
20	A comprehensive study on the mechanism of ferroelectric phase formation in hafnia-zirconia nanolaminates and superlattices. Applied Physics Reviews, 2019, 6, .	11.3	73
21	Ferroelectric switching in bilayer 3R MoS <sub>2</sub> via interlayer shear mode driven by nonlinear phononics. Scientific Reports, 2019, 9, 14919.	3.3	19
22	Morphological Evolution Induced through a Heterojunction of W-Decorated NiO Nanorings: Synergistic Effect on High-Performance Gas Sensors. ACS Applied Materials & Interfaces, 2019, 11, 7529-7538.	8.0	39
23	Reduction of the Hysteresis Voltage in Atomic-Layer-Deposited p-Type SnO <sub>2</sub> Thin-Film Transistors by Adopting an Al <sub>2</sub> O <sub>3</sub> Interfacial Layer. Advanced Electronic Materials, 2019, 5, 1900371.	5.1	23
24	Carbon-free Mn-doped LiFePO <sub>4</sub> cathode for highly transparent thin-film batteries. Journal of Power Sources, 2019, 434, 226713.	7.8	29
25	Double layered dielectric elastomer by vapor encapsulation casting for highly deformable and strongly adhesive triboelectric materials. Nano Energy, 2019, 62, 144-153.	16.0	12
26	Role of the Short-Range Order in Amorphous Oxide on MoS <sub>2</sub> /SiO <sub>2</sub> and MoS <sub>2</sub> /HfO <sub>2</sub> Interfaces. Physica Status Solidi (B): Basic Research, 2019, 256, 1900002.	1.5	3
27	Orientation-dependent structural and electronic properties of Ge/a-GeO <sub>2</sub> interfaces: first-principles study. Journal Physics D: Applied Physics, 2019, 52, 155101.	2.8	4
28	Tunneling Properties of the Charge Carriers through Sub-2-nm-Thick Oxide in Ge/a-GeO <sub>2</sub> /Ge Structures Using the First-Principles Scattering-State Method. Physical Review Applied, 2019, 11, .	3.8	3
29	Equilibrium crystal shape of GaAs and InAs considering surface vibration and new (111)B reconstruction: ab-initio thermodynamics. Scientific Reports, 2019, 9, 1127.	3.3	16
30	Optimization of Reconfigurable Satellite Constellations Using Simulated Annealing and Genetic Algorithm. Sensors, 2019, 19, 765.	3.8	41
31	Impact of Battery Degradation on Lifetime Ranges of Electric Aircraft and Unmanned Underwater Vehicles. , 2019, , .		2
32	Two/Three-dimensional Battery Pack Topologies and Their Internal Short Circuit Detectability. , 2019, , .		0
33	Heterojunction Based on Rh-Decorated WO <sub>3</sub> Nanorods for Morphological Change and Gas Sensor Application Using the Transition Effect. Chemistry of Materials, 2019, 31, 207-215.	6.7	71
34	Li alloy-based non-volatile actuators. Nano Energy, 2019, 57, 653-659.	16.0	11
35	Piezoelectric polymer-based roadway energy harvesting via displacement amplification module. Applied Energy, 2018, 216, 741-750.	10.1	86
36	Metal-free, flexible triboelectric generator based on MWCNT mesh film and PDMS layers. Applied Surface Science, 2018, 442, 693-699.	6.1	33

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37	Nanogap-controlled Pd coating for hydrogen sensitive switches and hydrogen sensors. <i>Sensors and Actuators B: Chemical</i> , 2018, 255, 1841-1848.	7.8	42
38	Mechanical Fatigue Resistance of Piezoelectric PVDF Polymers. <i>Micromachines</i> , 2018, 9, 503.	2.9	19
39	A novel class of oxynitrides stabilized by nitrogen dimer formation. <i>Scientific Reports</i> , 2018, 8, 14471.	3.3	6
40	Atomistic interpretation of the ac-dc crossover frequency in crystalline and glassy ionic conductors. <i>Journal of Chemical Physics</i> , 2018, 148, 204507.	3.0	5
41	Laser-irradiated inclined metal nanocolumns for selective, scalable, and room-temperature synthesis of plasmonic isotropic nanospheres. <i>Journal of Materials Chemistry C</i> , 2018, 6, 6038-6045.	5.5	37
42	Synthesis of Numerous Edge Sites in MoS <sub>2</sub> via SiO <sub>2</sub> Nanorods Platform for Highly Sensitive Gas Sensor. <i>ACS Applied Materials &amp; Interfaces</i> , 2018, 10, 31594-31602.	8.0	79
43	Scalable fabrication of flexible thin-film batteries for smart lens applications. <i>Nano Energy</i> , 2018, 53, 225-231.	16.0	53
44	Flexible-detachable dual-output sensors of fluid temperature and dynamics based on structural design of thermoelectric materials. <i>Nano Energy</i> , 2018, 50, 733-743.	16.0	13
45	Versatile approaches to tune a nanocolumnar structure for optimized electrical properties of In <sub>2</sub> O <sub>3</sub> based gas sensor. <i>Sensors and Actuators B: Chemical</i> , 2017, 248, 894-901.	7.8	23
46	Downsizing gas sensors based on semiconducting metal oxide: Effects of electrodes on gas sensing properties. <i>Sensors and Actuators B: Chemical</i> , 2017, 248, 949-956.	7.8	31
47	Flexible piezoelectric polymer-based energy harvesting system for roadway applications. <i>Applied Energy</i> , 2017, 197, 222-229.	10.1	167
48	A highly-efficient, concentrating-photovoltaic/thermoelectric hybrid generator. <i>Nano Energy</i> , 2017, 37, 242-247.	16.0	91
49	Self-powered flexible touch sensors based on PZT thin films using laser lift-off. <i>Sensors and Actuators A: Physical</i> , 2017, 261, 288-294.	4.1	30
50	Surface reconstruction of InAs (001) depending on the pressure and temperature examined by density functional thermodynamics. <i>Scientific Reports</i> , 2017, 7, 10691.	3.3	14
51	Growth and Characterization of BeO Thin Films Grown by Atomic Layer Deposition Using H <sub>2</sub> O and O <sub>3</sub> as Oxygen Sources. <i>Journal of Physical Chemistry C</i> , 2017, 121, 17498-17504.	3.1	13
52	Scalable excitatory synaptic circuit design using floating gate based leaky integrators. <i>Scientific Reports</i> , 2017, 7, 17579.	3.3	5
53	Atomic and electronic structures of a-ZnSnO <sub>3</sub> /a-SiO <sub>2</sub> interface by ab initio molecular dynamics simulations. <i>Physica Status Solidi (B): Basic Research</i> , 2016, 253, 1765-1770.	1.5	3
54	Resistance switching behavior of atomic layer deposited SrTiO <sub>3</sub> film through possible formation of SrTi <sub>6</sub> O <sub>13</sub> or SrTi <sub>11</sub> O <sub>20</sub> phases. <i>Scientific Reports</i> , 2016, 6, 20550.	3.3	17

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55	Alternative interpretations for decreasing voltage with increasing charge in ferroelectric capacitors. <i>Scientific Reports</i> , 2016, 6, 20825.	3.3	43
56	Recessed channel reconfigurable field-effect transistor. <i>Electronics Letters</i> , 2016, 52, 1640-1642.	1.0	2
57	Free-electron creation at the 60° twin boundary in Bi <sub>2</sub> Te <sub>3</sub> . <i>Nature Communications</i> , 2016, 7, 12449.	12.8	59
58	Correct extraction of frequency dispersion in accumulation capacitance in InGaAs metal-insulator-semiconductor devices. <i>Electronic Materials Letters</i> , 2016, 12, 768-772.	2.2	9
59	Dispersion of carbon nanotubes in aluminum improves radiation resistance. <i>Nano Energy</i> , 2016, 22, 319-327.	16.0	55
60	Electrochemically driven mechanical energy harvesting. <i>Nature Communications</i> , 2016, 7, 10146.	12.8	123
61	Multiple stiffening effects of nanoscale knobs on human red blood cells infected with <i>Plasmodium falciparum</i> malaria parasite. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2015, 112, 6068-6073.	7.1	108
62	Fully implantable and resorbable wireless medical devices for postsurgical infection abatement. , 2015, , .		2
63	Effect of oxygen vacancy on the structural and electronic characteristics of crystalline Zn <sub>2</sub> SnO <sub>4</sub> . <i>Journal of Materials Chemistry C</i> , 2014, 2, 8381-8387.	5.5	19
64	Thermodynamic stability of various phases of zinc tin oxides from ab initio calculations. <i>Journal of Materials Chemistry C</i> , 2013, 1, 6364.	5.5	28
65	Injectable, Cellular-Scale Optoelectronics with Applications for Wireless Optogenetics. <i>Science</i> , 2013, 340, 211-216.	12.6	1,010
66	Theoretical and experimental studies on the electronic structure of crystalline and amorphous ZnSnO <sub>3</sub> thin films. <i>Applied Physics Letters</i> , 2013, 102, .	3.3	25
67	Study on the defects in metal-organic chemical vapor deposited zinc tin oxide thin films using negative bias illumination stability analysis. <i>Journal of Materials Chemistry C</i> , 2013, 1, 6695.	5.5	18
68	The Electrical Properties of Asymmetric Schottky Contact Thin-Film Transistors with Amorphous-In <sub>2</sub> Ga <sub>2</sub> ZnO <sub>7</sub> . <i>IEEE Transactions on Electron Devices</i> , 2013, 60, 1128-1135.	3.0	18
69	Ab initio study on the structural characteristics of amorphous Zn <sub>2</sub> SnO <sub>4</sub> . <i>Applied Physics Letters</i> , 2013, 103, 252102.	3.3	10
70	Double-layered vertically integrated amorphous-In <sub>2</sub> Ga <sub>2</sub> ZnO <sub>7</sub> thin-film transistor. <i>Applied Physics Letters</i> , 2013, 103, .	3.3	12
71	Vertically integrated submicron amorphous-In <sub>2</sub> Ga <sub>2</sub> ZnO <sub>7</sub> thin film transistor using a low temperature process. <i>Applied Physics Letters</i> , 2012, 100, 203510.	3.3	34
72	In-situ observation of microstructural changes and electro-mechanical behaviors on ZnO nanowires under thermal condition. <i>Microscopy and Microanalysis</i> , 2012, 18, 752-753.	0.4	0

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73	Characterization of optical properties of the dislocations in GaN films using transmission electron microscopy cathodoluminescence. <i>Microscopy and Microanalysis</i> , 2012, 18, 1840-1841.	0.4	0
74	A comparison of destabilization mechanisms of the layered $\text{Na}_x\text{MO}_2$ and $\text{Li}_x\text{MO}_2$ compounds upon alkali de-intercalation. <i>Physical Chemistry Chemical Physics</i> , 2012, 14, 15571.	2.8	158
75	Reduction of Charge Trapping in $\text{HfO}_2$ Film on Ge Substrates by Atomic Layer Deposition of Various Passivating Interfacial Layers. <i>IEEE Transactions on Electron Devices</i> , 2012, 59, 2350-2356.	3.0	12
76	Performance Variation According to Device Structure and the Source/Drain Metal Electrode of a-IGZO TFTs. <i>IEEE Transactions on Electron Devices</i> , 2012, 59, 3357-3363.	3.0	34
77	All-electron scalar relativistic calculations of atomic hydrogen adsorption on cubo-octahedron $\text{Pt}_{55}$ nanoparticles. <i>Physica Status Solidi (B): Basic Research</i> , 2012, 249, 2145-2149.	1.5	0
78	Voltage, stability and diffusion barrier differences between sodium-ion and lithium-ion intercalation materials. <i>Energy and Environmental Science</i> , 2011, 4, 3680.	30.8	1,236
79	Microstructured elastomeric surfaces with reversible adhesion and examples of their use in deterministic assembly by transfer printing. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2010, 107, 17095-17100.	7.1	356
80	Reliable resistive switching device based on bi-layers of $\text{ZrO}_x/\text{HfO}_x$ films. , 2009, , .		0
81	Simulation studies of domain wall width changes in various nanocontact shapes. , 2006, , .		0
82	Effects of post-annealing on magnetic properties and microstructure of $\text{CoCrPt-SiO}_2$ perpendicular magnetic recording media. , 2006, , .		0
83	Hydrogen-induced reversible changes in drain current in $\text{Sc}_2\text{O}_3/\text{AlGaIn}/\text{GaN}$ high electron mobility transistors. <i>Applied Physics Letters</i> , 2004, 84, 4635-4637.	3.3	29
84	Annealing temperature stability of Ir and Ni-based Ohmic contacts on $\text{AlGaIn}/\text{GaN}$ high electron mobility transistors. <i>Journal of Vacuum Science &amp; Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena</i> , 2004, 22, 2635.	1.6	6
85	Pressure-induced changes in the conductivity of $\text{AlGaIn}/\text{GaN}$ high-electron mobility-transistor membranes. <i>Applied Physics Letters</i> , 2004, 85, 2962-2964.	3.3	111
86	Analysis of Machining Stability for a Parallel Machine Tool. <i>Mechanics Based Design of Structures and Machines</i> , 2003, 31, 509-528.	4.7	20
87	Phase Stability in Processing and Microstructure Control in High Temperature Mo-Si-B Alloys. <i>Materials Research Society Symposia Proceedings</i> , 2000, 646, 20.	0.1	12
88	ATOMIC STRUCTURE OF A {001} SURFACE OF THE ALLOY FeRh. <i>Surface Review and Letters</i> , 1999, 06, 133-136.	1.1	4
89	Pitting and Passivation of Al Alloys and Al-Based Metal Matrix Composites. <i>Journal of the Electrochemical Society</i> , 1990, 137, 78-82.	2.9	96
90	In-Depth Analysis of One Selector-One Resistor Crossbar Array for Its Writing and Reading Operations for Hardware Neural Network with Finite Wire Resistance. <i>Advanced Intelligent Systems</i> , 0, , 2100174.	6.1	4

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91	Ultrahigh thermopower waves in carbon nanotube-antimony telluride composites enabled by thermal decomposition of formaldehyde. International Journal of Energy Research, 0, , .	4.5	0