

Sunkook Kim

List of Publications by Citations

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124
papers

4,806
citations

25
h-index

67
g-index

144
ext. papers

5,575
ext. citations

8.5
avg, IF

5.39
L-index

#	Paper	IF	Citations
124	High-mobility and low-power thin-film transistors based on multilayer MoS ₂ crystals. <i>Nature Communications</i> , 2012 , 3, 1011	17.4	1223
123	High-detectivity multilayer MoS ₂ phototransistors with spectral response from ultraviolet to infrared. <i>Advanced Materials</i> , 2012 , 24, 5832-6	24	814
122	Large-area atomically thin MoS ₂ nanosheets prepared using electrochemical exfoliation. <i>ACS Nano</i> , 2014 , 8, 6902-10	16.7	323
121	Low-power flexible organic light-emitting diode display device. <i>Advanced Materials</i> , 2011 , 23, 3511-6	24	294
120	Two-dimensional layered MoS ₂ biosensors enable highly sensitive detection of biomolecules. <i>Scientific Reports</i> , 2014 , 4, 7352	4.9	199
119	Improved growth behavior of atomic-layer-deposited high-k dielectrics on multilayer MoS ₂ by oxygen plasma pretreatment. <i>ACS Applied Materials & Interfaces</i> , 2013 , 5, 4739-44	9.5	137
118	Highly Crystalline CVD-grown Multilayer MoSe ₂ Thin Film Transistor for Fast Photodetector. <i>Scientific Reports</i> , 2015 , 5, 15313	4.9	108
117	Giant photoamplification in indirect-bandgap multilayer MoS ₂ phototransistors with local bottom-gate structures. <i>Advanced Materials</i> , 2015 , 27, 2224-30	24	92
116	High-Mobility Transistors Based on Large-Area and Highly Crystalline CVD-Grown MoSe ₂ Films on Insulating Substrates. <i>Advanced Materials</i> , 2016 , 28, 2316-21	24	87
115	A highly sensitive chemical gas detecting transistor based on highly crystalline CVD-grown MoSe ₂ films. <i>Nano Research</i> , 2017 , 10, 1861-1871	10	73
114	High-Performance Flexible Multilayer MoS ₂ Transistors on Solution-Based Polyimide Substrates. <i>Advanced Functional Materials</i> , 2016 , 26, 2426-2434	15.6	63
113	Selective and localized laser annealing effect for high-performance flexible multilayer MoS ₂ thin-film transistors. <i>Nano Research</i> , 2014 , 7, 1137-1145	10	55
112	A Highly Sensitive Capacitive Touch Sensor Integrated on a Thin-Film-Encapsulated Active-Matrix OLED for Ultrathin Displays. <i>IEEE Transactions on Electron Devices</i> , 2011 , 58, 3609-3615	2.9	54
111	Fully transparent pixel circuits driven by random network carbon nanotube transistor circuitry. <i>ACS Nano</i> , 2010 , 4, 2994-8	16.7	54
110	Fully transparent thin-film transistors based on aligned carbon nanotube arrays and indium tin oxide electrodes. <i>Advanced Materials</i> , 2009 , 21, 564-8	24	53
109	Analysis of flicker noise in two-dimensional multilayer MoS ₂ transistors. <i>Applied Physics Letters</i> , 2014 , 104, 083110	3.4	49
108	Sensory Adaptation and Neuromorphic Phototransistors Based on CsPb(BrI) Perovskite and MoS ₂ Hybrid Structure. <i>ACS Nano</i> , 2020 , 14, 9796-9806	16.7	42

107	Wireless Real-Time Temperature Monitoring of Blood Packages: Silver Nanowire-Embedded Flexible Temperature Sensors. <i>ACS Applied Materials & Interfaces</i> , 2018 , 10, 44678-44685	9.5	42
106	Improving the Stability of High-Performance Multilayer MoS Field-Effect Transistors. <i>ACS Applied Materials & Interfaces</i> , 2017 , 9, 42943-42950	9.5	41
105	Label-Free and Recalibrated Multilayer MoS Biosensor for Point-of-Care Diagnostics. <i>ACS Applied Materials & Interfaces</i> , 2017 , 9, 43490-43497	9.5	36
104	Electrical characteristics of multilayer MoS ₂ transistors at real operating temperatures with different ambient conditions. <i>Applied Physics Letters</i> , 2014 , 105, 152105	3.4	34
103	Real-time electrical detection of epidermal skin MoS ₂ biosensor for point-of-care diagnostics. <i>Nano Research</i> , 2017 , 10, 767-775	10	33
102	Interstitial Mo-Assisted Photovoltaic Effect in Multilayer MoSe Phototransistors. <i>Advanced Materials</i> , 2018 , 30, e1705542	24	28
101	Laser-Processed Nature-Inspired Deformable Structures for Breathable and Reusable Electrophysiological Sensors toward Controllable Home Electronic Appliances and Psychophysiological Stress Monitoring. <i>ACS Applied Materials & Interfaces</i> , 2019 , 11, 28387-28396	9.5	27
100	Mechanically and optically reliable folding structure with a hyperelastic material for seamless foldable displays. <i>Applied Physics Letters</i> , 2011 , 98, 151904	3.4	26
99	Highly sensitive active pixel image sensor array driven by large-area bilayer MoS transistor circuitry. <i>Nature Communications</i> , 2021 , 12, 3559	17.4	24
98	Exceptionally Uniform and Scalable Multilayer MoS Phototransistor Array Based on Large-Scale MoS Grown by RF Sputtering, Electron Beam Irradiation, and Sulfurization. <i>ACS Applied Materials & Interfaces</i> , 2020 , 12, 20645-20652	9.5	24
97	Enhancement of photoresponsive electrical characteristics of multilayer MoS ₂ transistors using rubrene patches. <i>Nano Research</i> , 2015 , 8, 790-800	10	21
96	. <i>IEEE Transactions on Industrial Electronics</i> , 2020 , 67, 8808-8816	8.9	21
95	Electrical Contact Analysis of Multilayer MoS ₂ Transistor With Molybdenum Source/Drain Electrodes. <i>IEEE Electron Device Letters</i> , 2015 , 36, 1215-1218	4.4	20
94	Atomic-layer-deposited ZnO thin-film transistors with various gate dielectrics. <i>Physica Status Solidi (A) Applications and Materials Science</i> , 2012 , 209, 2087-2090	1.6	20
93	Asymmetric Double-Gate EGa ₂ O ₃ Nanomembrane Field-Effect Transistor for Energy-Efficient Power Devices. <i>Advanced Electronic Materials</i> , 2019 , 5, 1800938	6.4	19
92	Phototransistors: High-Detectivity Multilayer MoS ₂ Phototransistors with Spectral Response from Ultraviolet to Infrared (Adv. Mater. 43/2012). <i>Advanced Materials</i> , 2012 , 24, 5902-5902	24	19
91	MoS Field-Effect Transistor-Amyloid- β Hybrid Device for Signal Amplified Detection of MMP-9. <i>Analytical Chemistry</i> , 2019 , 91, 8252-8258	7.8	18
90	Chemical Doping Effects on CVD-Grown Multilayer MoSe ₂ Transistor. <i>Advanced Electronic Materials</i> , 2018 , 4, 1700639	6.4	18

89	Evaluation of pulsed laser annealing for flexible multilayer MoS ₂ transistors. <i>Applied Physics Letters</i> , 2015 , 106, 113111	3.4	18
88	18.4: A New Seamless Foldable OLED Display Composed of Multi Display Panels. <i>Digest of Technical Papers SID International Symposium</i> , 2010 , 41, 257	0.5	18
87	n-Type Doping Effect of CVD-Grown Multilayer MoSe ₂ Thin Film Transistors by Two-Step Functionalization. <i>Advanced Electronic Materials</i> , 2018 , 4, 1800308	6.4	18
86	Capacitance-voltage modeling of metal-ferroelectric-semiconductor capacitors based on epitaxial oxide heterostructures. <i>Applied Physics Letters</i> , 2011 , 98, 102901	3.4	17
85	Recent progress in high-mobility thin-film transistors based on multilayer 2D materials. <i>Journal Physics D: Applied Physics</i> , 2017 , 50, 164001	3	16
84	Flexible PI-Based Plant Drought Stress Sensor for Real-Time Monitoring System in Smart Farm. <i>Electronics (Switzerland)</i> , 2018 , 7, 114	2.6	16
83	Optically transparent thin-film transistors based on 2D multilayer MoS ₂ and indium zinc oxide electrodes. <i>Nanotechnology</i> , 2015 , 26, 035202	3.4	16
82	Chemical Doping Effects in Multilayer MoS and Its Application in Complementary Inverter. <i>ACS Applied Materials & Interfaces</i> , 2018 , 10, 23270-23276	9.5	15
81	A Colorimetric Multifunctional Sensing Method for Structural-Durability-Health Monitoring Systems. <i>Advanced Materials</i> , 2019 , 31, e1807552	24	14
80	Temperature-Dependent Electrical Properties of Al ₂ O ₃ -Passivated Multilayer MoS ₂ Thin-Film Transistors. <i>Applied Sciences (Switzerland)</i> , 2018 , 8, 424	2.6	14
79	On MoS Thin-Film Transistor Design Consideration for a NO Gas Sensor. <i>ACS Sensors</i> , 2019 , 4, 2930-2936	9.2	14
78	A α -Si:H Thin-Film Phototransistor for a Near-Infrared Touch Sensor. <i>IEEE Electron Device Letters</i> , 2015 , 36, 41-43	4.4	14
77	Peimine Inhibits the Production of Proinflammatory Cytokines Through Regulation of the Phosphorylation of NF- κ B and MAPKs in HMC-1 Cells. <i>Pharmacognosy Magazine</i> , 2017 , 13, S359-S364	0.8	14
76	Large-area MoS ₂ -MoO _x heterojunction thin-film photodetectors with wide spectral range and enhanced photoresponse. <i>APL Materials</i> , 2019 , 7, 061101	5.7	13
75	Highly Efficient Nanocarbon Coating Layer on the Nanostructured Copper Sulfide-Metal Organic Framework Derived Carbon for Advanced Sodium-Ion Battery Anode. <i>Materials</i> , 2019 , 12,	3.5	13
74	Highly Linear and Stable Flexible Temperature Sensors Based on Laser-Induced Carbonization of Polyimide Substrates for Personal Mobile Monitoring. <i>Advanced Materials Technologies</i> , 2020 , 5, 2000014	6.8	13
73	Alcohol-based highly conductive polymer for conformal nanocoatings on hydrophobic surfaces toward a highly sensitive and stable pressure sensor. <i>NPG Asia Materials</i> , 2020 , 12,	10.3	13
72	Enhanced Moisture-Reactive Hydrophilic-PTFE-Based Flexible Humidity Sensor for Real-Time Monitoring. <i>Sensors</i> , 2018 , 18,	3.8	13

71	Enhanced photoresponsivity of multilayer MoS ₂ transistors using high work function MoO _x overlayer. <i>Applied Physics Letters</i> , 2017 , 110, 053112	3.4	11
70	Flexible nano-hybrid inverter based on inkjet-printed organic and 2D multilayer MoS ₂ thin film transistor. <i>Organic Electronics</i> , 2014 , 15, 3038-3042	3.5	11
69	High performance and transparent multilayer MoS ₂ transistors: Tuning Schottky barrier characteristics. <i>AIP Advances</i> , 2016 , 6, 055026	1.5	11
68	Highly stretchable metal-polymer hybrid conductors for wearable and self-cleaning sensors. <i>NPG Asia Materials</i> , 2021 , 13,	10.3	11
67	Biocompatible, Transparent, and High-Areal-Coverage Kirigami PEDOT:PSS Electrodes for Electrooculography-Derived Human-Machine Interactions. <i>ACS Sensors</i> , 2021 , 6, 967-975	9.2	11
66	Highly Stable Thin-Film Transistors Based on Indium Oxynitride Semiconductor. <i>ACS Applied Materials & Interfaces</i> , 2018 , 10, 15873-15879	9.5	10
65	Rendering High Charge Density of States in Ionic Liquid-Gated MoS ₂ Transistors. <i>Journal of Physical Chemistry C</i> , 2014 , 118, 18278-18282	3.8	10
64	Ultrasensitive Multilayer MoS ₂ -Based Photodetector with Permanently Grounded Gate Effect. <i>Advanced Electronic Materials</i> , 2020 , 6, 1901256	6.4	9
63	Neuromorphic Active Pixel Image Sensor Array for Visual Memory. <i>ACS Nano</i> , 2021 , 15, 15362-15370	16.7	9
62	The doping mechanism and electrical performance of polyethylenimine-doped MoS ₂ transistor. <i>Physica Status Solidi C: Current Topics in Solid State Physics</i> , 2017 , 14, 1600262		9
61	Improvement of the stability and optoelectronic characteristics of molybdenum disulfide thin-film transistors by applying a nitrocellulose passivation layer. <i>Journal of Information Display</i> , 2020 , 21, 123-130	4.1	8
60	Nanowire-based ternary transistor by threshold-voltage manipulation. <i>Applied Physics Letters</i> , 2014 , 104, 143509	3.4	8
59	Facile fabrication of forest-like ZnO hierarchical structures on conductive fabric substrate. <i>Physica Status Solidi - Rapid Research Letters</i> , 2012 , 6, 355-357	2.5	8
58	DC modeling and the source of flicker noise in passivated carbon nanotube transistors. <i>Nanotechnology</i> , 2010 , 21, 385203	3.4	8
57	Active-matrix monolithic gas sensor array based on MoS ₂ thin-film transistors. <i>Communications Materials</i> , 2020 , 1,	6	8
56	Direct growth of orthorhombic Hf _{0.5} Zr _{0.5} O ₂ thin films for hysteresis-free MoS ₂ negative capacitance field-effect transistors. <i>Npj 2D Materials and Applications</i> , 2021 , 5,	8.8	8
55	Low-temperature behaviors of multilayer MoS ₂ transistors with ohmic and Schottky contacts. <i>Applied Physics Letters</i> , 2019 , 115, 033501	3.4	7
54	Trends in Low-Temperature Combustion Derived Thin Films for Solution-Processed Electronics. <i>Advanced Electronic Materials</i> , 2020 , 6, 2000464	6.4	7

53	A Fully Integrated Flexible Heterogeneous Temperature and Humidity Sensor-Based Occupancy Detection Device for Smart Office Applications. <i>Advanced Materials Technologies</i> , 2019 , 4, 1900619	6.8	6
52	A highly sensitive ultrathin-film iron corrosion sensor encapsulated by an anion exchange membrane embedded in mortar. <i>Construction and Building Materials</i> , 2017 , 156, 506-514	6.7	6
51	Nanonet: Low-temperature-processed tellurium nanowire network for scalable p-type field-effect transistors and a highly sensitive phototransistor array. <i>NPG Asia Materials</i> , 2021 , 13,	10.3	6
50	Ultrafast prototyping of large-area stretchable electronic systems by laser ablation technique for controllable robotic arm operations. <i>IEEE Transactions on Industrial Electronics</i> , 2021 , 1-1	8.9	6
49	Highly enhanced ferroelectricity in HfO-based ferroelectric thin film by light ion bombardment.. <i>Science</i> , 2022 , 376, 731-738	33.3	6
48	Photosensitivity enhancement in hydrogenated amorphous silicon thin-film phototransistors with gate underlap. <i>Applied Physics Letters</i> , 2015 , 107, 201103	3.4	5
47	Diffuse light-scattering properties of nanocracked and porous MoO ₃ films self-formed by electrodeposition and thermal annealing. <i>Physica Status Solidi (A) Applications and Materials Science</i> , 2012 , 209, 2161-2166	1.6	5
46	Drop-cast and dye-sensitized ZnO nanorod-based visible-light photodetectors. <i>Physica Status Solidi - Rapid Research Letters</i> , 2013 , 7, 659-663	2.5	5
45	High-Intensity Ultrasound-Assisted Low-Temperature Formulation of Lanthanum Zirconium Oxide Nanodispersion for Thin-Film Transistors. <i>ACS Applied Materials & Interfaces</i> , 2020 , 12, 44926-44933	9.5	5
44	Smart Patch for Skin Temperature: Preliminary Study to Evaluate Psychometrics and Feasibility. <i>Sensors</i> , 2021 , 21,	3.8	5
43	Multifunctional molybdenum disulfide flash memory using a PEDOT:PSS floating gate. <i>NPG Asia Materials</i> , 2021 , 13,	10.3	5
42	High-Performance Non-Volatile InGaZnO Based Flash Memory Device Embedded with a Monolayer Au Nanoparticles. <i>Nanomaterials</i> , 2021 , 11,	5.4	5
41	Research Update: Nanoscale surface potential analysis of MoS ₂ field-effect transistors for biomolecular detection using Kelvin probe force microscopy. <i>APL Materials</i> , 2016 , 4, 100701	5.7	5
40	Resistive Water Sensors Based on PEDOT:PSS--PEGME Copolymer and Laser Treatment for Water Ingress Monitoring Systems. <i>ACS Sensors</i> , 2019 , 4, 3291-3297	9.2	5
39	Pulsed Gate Switching of MoS ₂ Field-Effect Transistor Based on Flexible Polyimide Substrate for Ultrasonic Detectors. <i>Advanced Functional Materials</i> , 2021 , 31, 2007389	15.6	5
38	Sub-Thermionic Negative Capacitance Field Effect Transistors with Solution Combustion-Derived Hf _{0.5} Zr _{0.5} O ₂ . <i>Advanced Functional Materials</i> , 2021 , 31, 2103748	15.6	5
37	Chaotic Organic Crystal Phosphorescent Patterns for Physical Unclonable Functions. <i>Advanced Materials</i> , 2021 , 33, e2102542	24	5
36	Massive, eco-friendly, and facile fabrication of multi-functional anodic aluminum oxides: application to nanoporous templates and sensing platforms. <i>RSC Advances</i> , 2017 , 7, 4518-4530	3.7	4

35	Rapid and mass-producible synthesis of high-crystallinity MoSe nanosheets by ampoule-loaded chemical vapor deposition. <i>Nanoscale</i> , 2020 , 12, 6991-6999	7.7	4
34	High-temperature electrical behavior of a 2D multilayered MoS2 transistor. <i>Journal of the Korean Physical Society</i> , 2014 , 64, 945-948	0.6	4
33	Multilayer transition-metal dichalcogenide channel Thin-Film Transistors 2012 ,		4
32	Ultra-Short Pulsed Laser Annealing Effects on MoS2 Transistors with Asymmetric and Symmetric Contacts. <i>Electronics (Switzerland)</i> , 2019 , 8, 222	2.6	3
31	Phototransistors: Giant Photoamplification in Indirect-Bandgap Multilayer MoS2 Phototransistors with Local Bottom-Gate Structures (Adv. Mater. 13/2015). <i>Advanced Materials</i> , 2015 , 27, 2126-2126	24	3
30	Transition Metal Dichalcogenide Photodetectors 2018 ,		3
29	Skin-conformable photoplethysmogram sensors for energy-efficient always-on cardiovascular monitoring systems. <i>Nano Energy</i> , 2022 , 92, 106773	17.1	3
28	Effectively Enhanced Broadband Phototransistors Based on Multilayer WSe2/Pentacene. <i>Advanced Electronic Materials</i> , 2021 , 7, 2100003	6.4	3
27	A New Microstructure Development Model for the Evaluation of Concrete Setting Time. <i>Advances in Materials Science and Engineering</i> , 2016 , 2016, 1-10	1.5	3
26	Transistors: High-Mobility Transistors Based on Large-Area and Highly Crystalline CVD-Grown MoSe2 Films on Insulating Substrates (Adv. Mater. 12/2016). <i>Advanced Materials</i> , 2016 , 28, 2278-2278	24	3
25	High photoresponsivity of multilayer MoSe2 phototransistors decorated with Au nanoseeds. <i>Applied Physics Letters</i> , 2021 , 119, 131102	3.4	3
24	All-day wearable health monitoring system. <i>EcoMat</i> ,	9.4	3
23	Colorimetric Sensing Systems: A Colorimetric Multifunctional Sensing Method for Structural-Durability-Health Monitoring Systems (Adv. Mater. 23/2019). <i>Advanced Materials</i> , 2019 , 31, 1970163	24	2
22	Doubly clamped single-walled carbon nanotube resonators operating in MHz frequencies		2
21	Mechanically Stable Kirigami Deformable Resonant Circuits for Wireless Vibration and Pressure Sensor Applications. <i>ACS Applied Materials & Interfaces</i> , 2021 , 13, 54162-54169	9.5	2
20	Nickel telluride vertically aligned thin film by radio-frequency magnetron sputtering for hydrogen evolution reaction. <i>APL Materials</i> , 2020 , 8, 121104	5.7	2
19	Growth of Multiorientated Polycrystalline MoS Using Plasma-Enhanced Chemical Vapor Deposition for Efficient Hydrogen Evolution Reactions. <i>Nanomaterials</i> , 2020 , 10,	5.4	2
18	Moving shot, an affordable and high-throughput setup for direct imaging of fast-moving microdroplets. <i>Microsystem Technologies</i> , 2019 , 25, 3417-3423	1.7	2

17	Customization of MoS ₂ Phototransistors via Thiol-Based Functionalization. <i>Advanced Electronic Materials</i> , 2021 , 7, 2100644	6.4	2
16	66-1: Invited Paper: High Mobility Flexible 2D Multilayer MoS ₂ TFTs on Solution-Based Polyimide Substrates. <i>Digest of Technical Papers SID International Symposium</i> , 2017 , 48, 965-967	0.5	1
15	Plasma diagnostic in LiMn ₂ O ₄ thin film process for Li-ion battery application. <i>Surface and Coatings Technology</i> , 2020 , 397, 126066	4.4	1
14	High-Speed Direct Writing of MoSe ₂ by Maskless and Gas-Free Laser-Assisted Selenization Process. <i>Journal of Physical Chemistry C</i> , 2020 , 124, 19333-19339	3.8	1
13	High-mobility 2D layered semiconducting transistors based on large-area and highly crystalline CVD-grown MoSe ₂ for flexible electronics 2016 ,		1
12	Flexible Platform Oriented: Unipolar-Type Hybrid Dual-Channel Scalable Field-Effect Phototransistors Array Based on Tellurium Nanowires and Tellurium-Film with Highly Linear Photoresponsivity. <i>Advanced Electronic Materials</i> , 2101331	6.4	1
11	Laser-Processed Stretchable-Gradient Interconnection-Based Temperature Sensor for a Real-Time Monitoring System. <i>ACS Applied Electronic Materials</i> , 2021 , 3, 5601-5607	4	1
10	Fabrication of Highly Photosensitive MoS ₂ Photodetector Films Using Rapid Electrohydrodynamic-Jet Printing Process. <i>Advanced Electronic Materials</i> , 2101063	6.4	0
9	Sub-Zero Temperature Sensor Based on Laser-Written Carbon. <i>Advanced Electronic Materials</i> , 2101252	6.4	0
8	Low-Temperature Carrier Transport Mechanism of Wafer-Scale Grown Polycrystalline Molybdenum Disulfide Thin-Film Transistor Based on Radio Frequency Sputtering and Sulfurization. <i>Advanced Materials Interfaces</i> , 2102360	4.6	0
7	Expediently Crystallized Pure Orthorhombic-HfZrO for Negative Capacitance Field Effect Transistors.. <i>ACS Applied Materials & Interfaces</i> , 2021 , 13, 60250-60260	9.5	0
6	Thin-Film Transistors: Chemical Doping Effects on CVD-Grown Multilayer MoSe ₂ Transistor (Adv. Electron. Mater. 6/2018). <i>Advanced Electronic Materials</i> , 2018 , 4, 1870032	6.4	
5	Electrical performance of local bottom-gated MoS ₂ thin-film transistors. <i>Journal of Information Display</i> , 2014 , 15, 107-110	4.1	
4	Thin-Film Transistors Based on Transition Metal Dichalcogenides 539-562		
3	Embedded Structural-Durability-Health Monitoring System Integrated with Multi-Sensors and a Wideband Antenna. <i>IEEE Internet of Things Journal</i> , 2022 , 1-1	10.7	
2	Ultrathin Al-Assisted Al ₂ O ₃ Passivation Layer for High-Stability Tungsten Diselenide Transistors and Their Ambipolar Inverter. <i>Advanced Electronic Materials</i> , 2101012	6.4	
1	Resistive Water Level Sensors Based on AgNWs/PEDOT:PSS-PEGME Hybrid Film for Agricultural Monitoring Systems.. <i>ACS Omega</i> , 2022 , 7, 15459-15466	3.9	