Jihyun Kim

List of Publications by Citations

224 papers	6,506 citations	41 h-index	73 g-index
232 ext. papers	7,769 ext. citations	3.9 avg, IF	6.38 L-index

#	Paper	IF	Citations
224	A review of Ga2O3 materials, processing, and devices. *Applied Physics Reviews*, **2018**, 5, 011301	17.3	1114
223	Perspective: Opportunities and Future Directions for Ga2O3. *ECS Journal of Solid State Science and Technology*, **2017**, 6, P356-P359	2	261
222	Perspective: Ga2O3 for ultra-high power rectifiers and MOSFETS. *Journal of Applied Physics*, **2018**, 124, 220901	2.5	245
221	High Responsivity Ga2O3 Metal–Semiconductor–Metal Solar-Blind Photodetectors with Ultraviolet Transparent Graphene Electrodes. *ACS Photonics*, **2018**, 5, 1123-1128	6.3	147
220	Review of radiation damage in GaN-based materials and devices. *Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films*, **2013**, 31, 050801	2.9	145
219	Radiation effects in GaN materials and devices. *Journal of Materials Chemistry C*, **2013**, 1, 877-887	7.1	139
218	High reverse breakdown voltage Schottky rectifiers without edge termination on Ga2O3. *Applied Physics Letters*, **2017**, 110, 192101	3.4	118
217	Fabrication of a stretchable and patchable array of high performance micro-supercapacitors using a non-aqueous solvent based gel electrolyte. *Energy and Environmental Science*, **2015**, 8, 1764-1774	35.4	115
216	Exfoliated β-Ga2O3 nano-belt field-effect transistors for air-stable high power and high temperature electronics. *Physical Chemistry Chemical Physics*, **2016**, 18, 15760-4	3.6	111
215	Flexible graphene-based chemical sensors on paper substrates. *Physical Chemistry Chemical Physics*, **2013**, 15, 1798-801	3.6	109
214	Body-Attachable and Stretchable Multisensors Integrated with Wirelessly Rechargeable Energy Storage Devices. *Advanced Materials*, **2016**, 28, 748-56	24	102
213	Radiation damage effects in Ga2O3 materials and devices. *Journal of Materials Chemistry C*, **2019**, 7, 10-24	7.1	90
212	Quasi-two-dimensional β-gallium oxide solar-blind photodetectors with ultrahigh responsivity. *Journal of Materials Chemistry C*, **2016**, 4, 9245-9250	7.1	89
211	Characteristics of MgO/GaN gate-controlled metal–oxide–semiconductor diodes. *Applied Physics Letters*, **2002**, 80, 4555-4557	3.4	85
210	Large-area transparent conductive few-layer graphene electrode in GaN-based ultra-violet light-emitting diodes. *Applied Physics Letters*, **2011**, 99, 143101	3.4	84
209	Defect-engineered graphene chemical sensors with ultrahigh sensitivity. *Physical Chemistry Chemical Physics*, **2016**, 18, 14198-204	3.6	82
208	Suspended black phosphorus nanosheet gas sensors. *Sensors and Actuators B: Chemical*, **2017**, 250, 569-573	8.5	80

207	Effect of front and back gates on Ga2O3 nano-belt field-effect transistors. *Applied Physics Letters*, **2016**, 109, 062102	3.4	79
206	Influence of High-Energy Proton Irradiation on GaO Nanobelt Field-Effect Transistors. *ACS Applied Materials & Interfaces*, **2017**, 9, 40471-40476	9.5	76
205	Development of solar-blind photodetectors based on Si-implanted Ga(2)O(3). *Optics Express*, **2015**, 23, 28300-5	3.3	76
204	Electrical Characteristics of Vertical Ni/Ga2O3Schottky Barrier Diodes at High Temperatures. *ECS Journal of Solid State Science and Technology*, **2017**, 6, Q3022-Q3025	2	73
203	Point defect induced degradation of electrical properties of Ga2O3 by 10 MeV proton damage. *Applied Physics Letters*, **2018**, 112, 032107	3.4	72
202	Quasi-Two-Dimensional h-BN/GaO Heterostructure Metal-Insulator-Semiconductor Field-Effect Transistor. *ACS Applied Materials & Interfaces*, **2017**, 9, 21322-21327	9.5	71
201	Reversible barrier height changes in hydrogen-sensitive Pd/GaN and Pt/GaN diodes. *Applied Physics Letters*, **2003**, 82, 739-741	3.4	69
200	White emission using mixtures of CdSe quantum dots and PMMA as a phosphor. *Optical Materials*, **2010**, 32, 515-521	3.3	68
199	Solar-Blind Metal-Semiconductor-Metal Photodetectors Based on an Exfoliated Ga2O3Micro-Flake. *ECS Journal of Solid State Science and Technology*, **2017**, 6, Q79-Q83	2	65
198	Inversion behavior in Sc2O3/GaN gated diodes. *Applied Physics Letters*, **2002**, 81, 373-375	3.4	64
197	High breakdown voltage quasi-two-dimensional Ga2O3 field-effect transistors with a boron nitride field plate. *Applied Physics Letters*, **2018**, 112, 122102	3.4	63
196	Graphene-based flexible NO2 chemical sensors. *Thin Solid Films*, **2012**, 520, 5459-5462	2.2	63
195	Heterostructure WSe-GaO Junction Field-Effect Transistor for Low-Dimensional High-Power Electronics. *ACS Applied Materials & Interfaces*, **2018**, 10, 29724-29729	9.5	60
194	Tuning the thickness of exfoliated quasi-two-dimensional Ga2O3 flakes by plasma etching. *Applied Physics Letters*, **2017**, 110, 131901	3.4	54
193	Three-dimensional multilayered nanostructures with controlled orientation of microdomains from cross-linkable block copolymers. *ACS Nano*, **2011**, 5, 6164-73	16.7	53
192	Chemical Etch Characteristics of N-Face and Ga-Face GaN by Phosphoric Acid and Potassium Hydroxide Solutions. *Journal of the Electrochemical Society*, **2011**, 159, H117-H120	3.9	52
191	Ultrahigh Deep-UV Sensitivity in Graphene-Gated Ga2O3 Phototransistors. *ACS Photonics*, **2019**, 6, 1026-1032	6.3	48
190	Comparison of Pt/GaN and Pt/4H-SiC gas sensors. *Solid-State Electronics*, **2003**, 47, 1487-1490	1.7	48

189	Effect of 5 MeV proton irradiation damage on performance of Ga2O3 photodetectors. *Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics*, **2016**, 34, 041213	1.3	47
188	Defects responsible for charge carrier removal and correlation with deep level introduction in irradiated Ga2O3. *Applied Physics Letters*, **2018**, 113, 092102	3.4	46
187	Electrospun Nb-doped TiO nanofiber support for Pt nanoparticles with high electrocatalytic activity and durability. *Scientific Reports*, **2017**, 7, 44411	4.9	45
186	Effects of Photoelectrochemical Etching of N-Polar and Ga-Polar Gallium Nitride on Sapphire Substrates. *Journal of the Electrochemical Society*, **2010**, 157, H676	3.9	43
185	1.5 MeV electron irradiation damage in Ga2O3 vertical rectifiers. *Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics*, **2017**, 35, 031208	1.3	41
184	Optical and electrical properties of GaMnN films grown by molecular-beam epitaxy. *Journal of Applied Physics*, **2002**, 92, 4989-4993	2.5	41
183	Platinum-functionalized black phosphorus hydrogen sensors. *Applied Physics Letters*, **2017**, 110, 242103	3.4	38
182	Diffusion length of non-equilibrium minority charge carriers in Ga2O3 measured by electron beam induced current. *Journal of Applied Physics*, **2018**, 123, 185704	2.5	37
181	High energy proton irradiation effects on SiC Schottky rectifiers. *Applied Physics Letters*, **2002**, 81, 2385-2387	3.4	37
180	Transparent conductive graphene electrode in GaN-based ultra-violet light emitting diodes. *Optics Express*, **2010**, 18, 23030-4	3.3	36
179	Tuning the thickness of black phosphorus via ion bombardment-free plasma etching for device performance improvement. *Journal of Materials Chemistry C*, **2016**, 4, 6234-6239	7.1	34
178	GaN-based ultraviolet light-emitting diodes with AuCl doped graphene electrodes. *Optics Express*, **2013**, 21, 29025-30	3.3	34
177	Electrical characteristics of proton-irradiated Sc2O3 passivated AlGaN/GaN high electron mobility transistors. *Applied Physics Letters*, **2003**, 82, 1428-1430	3.4	33
176	Two-Dimensionally Layered p-Black Phosphorus/n-MoS/p-Black Phosphorus Heterojunctions. *ACS Applied Materials & Interfaces*, **2018**, 10, 10347-10352	9.5	32
175	Three-dimensional graphene foam-based transparent conductive electrodes in GaN-based blue light-emitting diodes. *Applied Physics Letters*, **2013**, 102, 161902	3.4	32
174	Chalcogenization-Derived Band Gap Grading in Solution-Processed CuIn(x)Ga(1-x)(Se,S) Thin-Film Solar Cells. *ACS Applied Materials & Interfaces*, **2015**, 7, 27391-6	9.5	30
173	Dependence on proton energy of degradation of AlGaN/GaN high electron mobility transistors. *Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics*, **2013**, 31, 022201	1.3	29
172	Effects of high-dose 40MeV proton irradiation on the electroluminescent and electrical performance of InGaN light-emitting diodes. *Applied Physics Letters*, **2004**, 85, 3131-3133	3.4	29

171	Precise control of defects in graphene using oxygen plasma. *Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films*, **2015**, 33, 060602	2.9	28
170	UV ozone treatment for improving contact resistance on graphene. *Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics*, **2012**, 30, 060604	1.3	27
169	Fabrication of GaN nanorods by inductively coupled plasma etching via SiO2 nanosphere lithography. *Thin Solid Films*, **2009**, 517, 3859-3861	2.2	27
168	Buried graphene electrodes on GaN-based ultra-violet light-emitting diodes. *Applied Physics Letters*, **2012**, 101, 031108	3.4	25
167	GaN and other materials for semiconductor spintronics. *Journal of Electronic Materials*, **2003**, 32, 288-297	1.9	25
166	10 MeV proton damage in β-Ga2O3 Schottky rectifiers. *Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics*, **2018**, 36, 011206	1.3	24
165	Effects of proton irradiation energies on degradation of AlGaN/GaN high electron mobility transistors. *Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics*, **2012**, 30, 012202	1.3	24
164	Effect of neutron irradiation on electrical and optical properties of InGaN/GaN light-emitting diodes. *Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics*, **2010**, 28, 27-29	1.3	24
163	Deep-ultraviolet photodetector based on exfoliated n-type β-Ga2O3 nanobelt/p-Si substrate heterojunction. *Korean Journal of Chemical Engineering*, **2018**, 35, 574-578	2.8	23
162	Nonpolar light emitting diode with sharp near-ultraviolet emissions using hydrothermally grown ZnO on p-GaN. *Applied Physics Letters*, **2013**, 103, 091107	3.4	23
161	Enhanced light extraction of nonpolar a-plane (11-20) GaN light emitting diodes on sapphire substrates by photo-enhanced chemical wet etching. *Optics Express*, **2010**, 18, 9728-32	3.3	23
160	GaN-based light-emitting diodes on origami substrates. *Applied Physics Letters*, **2012**, 100, 231113	3.4	23
159	Three-Dimensional Graphene Network-Based Chemical Sensors on Paper Substrate. *Journal of the Electrochemical Society*, **2013**, 160, B160-B163	3.9	22
158	Comparison of stability of WSiX/SiC and Ni/SiC Schottky rectifiers to high dose gamma-ray irradiation. *Applied Physics Letters*, **2004**, 84, 371-373	3.4	22
157	Rapid sintering of TiO2 photoelectrodes using intense pulsed white light for flexible dye-sensitized solar cells. *Applied Physics Letters*, **2014**, 104, 143902	3.4	21
156	Fabrication of GaAs subwavelength structure (SWS) for solar cell applications. *Optics Express*, **2011**, 19 Suppl 3, A326-30	3.3	21
155	Effective temperature measurements of AlGaN/GaN-based HEMT under various load lines using micro-Raman technique. *Solid-State Electronics*, **2006**, 50, 408-411	1.7	21
154	Transfer-Free Growth of Multilayer Graphene Using Self-Assembled Monolayers. *ACS Applied Materials & Interfaces*, **2016**, 8, 27115-27121	9.5	20

153	Impact of proton irradiation on dc performance of AlGaN/GaN high electron mobility transistors. *Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics*, **2013**, 31, 042202	1.3	20
152	Selective chemical etch of gallium nitride by phosphoric acid. *Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films*, **2012**, 30, 040602	2.9	20
151	Thermal stability of WSix and W Schottky contacts on n-GaN. *Applied Physics Letters*, **2003**, 82, 3263-3265	3.4	20
150	Elevated temperature performance of Si-implanted solar-blind Ga2O3 photodetectors. *Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics*, **2016**, 34, 041207	1.3	20
149	Ultrawide-Bandgap p-n Heterojunction of Diamond/Ga2O3 for a Solar-Blind Photodiode. *ECS Journal of Solid State Science and Technology*, **2020**, 9, 045004	2	20
148	Contacting Mechanically Exfoliated Ga2O3Nanobelts for (Opto)electronic Device Applications. *ECS Journal of Solid State Science and Technology*, **2017**, 6, Q3045-Q3048	2	19
147	Etched Surface Morphology of Heteroepitaxial Nonpolar (1120) and Semipolar (1122) GaN Films by Photoenhanced Chemical Wet Etching. *Journal of the Electrochemical Society*, **2011**, 158, D196	3.9	19
146	AlGaN/GaN High Electron Mobility Transistors Irradiated with 17 MeV Protons. *Journal of the Electrochemical Society*, **2008**, 155, H513	3.9	19
145	Inductively coupled plasma etching of nano-patterned sapphire for flip-chip GaN light emitting diode applications. *Thin Solid Films*, **2008**, 516, 7744-7747	2.2	19
144	Monolithically Integrated Enhancement-Mode and Depletion-Mode GaO MESFETs with Graphene-Gate Architectures and Their Logic Applications. *ACS Applied Materials & Interfaces*, **2020**, 12, 7310-7316	9.5	19
143	ReviewRadiation Damage in Wide and Ultra-Wide Bandgap Semiconductors. *ECS Journal of Solid State Science and Technology*, **2021**, 10, 055008	2	19
142	Defect States Determining Dynamic Trapping-Detrapping in Ga2O3 Field-Effect Transistors. *ECS Journal of Solid State Science and Technology*, **2019**, 8, Q3013-Q3018	2	19
141	Growth of CdTe thin films on graphene by close-spaced sublimation method. *Applied Physics Letters* , **2013**, 103, 231910	3.4	18
140	Field-plate engineering for high breakdown voltage GaO nanolayer field-effect transistors.. *RSC Advances*, **2019**, 9, 9678-9683	3.7	17
139	In situ thickness control of black phosphorus field-effect transistors via ozone treatment. *Nano Research*, **2016**, 9, 3056-3065	10	17
138	Chemical etching behaviors of semipolar (11 22) and nonpolar (11 20) gallium nitride films. *Physical Chemistry Chemical Physics*, **2014**, 16, 15780-3	3.6	17
137	Energy and dose dependence of proton-irradiation damage in graphene. *RSC Advances*, **2015**, 5, 31861-31865	3.7	17
136	Artificial Neuron and Synapse Devices Based on 2D Materials. *Small*, **2021**, 17, e2100640	11	17

135	Bifacial CdS/CdTe thin-film solar cells using a transparent silver nanowire/indium tin oxide back contact. *Optics Express*, **2018**, 26, A30-A38	3.3	16
134	2D Material-Based Vertical Double Heterojunction Bipolar Transistors with High Current Amplification. *Advanced Electronic Materials*, **2019**, 5, 1800745	6.4	16
133	15.5 A 0.6V 1.17ps PVT-tolerant and synthesizable time-to-digital converter using stochastic phase interpolation with 16 spatial redundancy in 14nm FinFET technology **2015**,		15
132	Reducing the contact and channel resistances of black phosphorus via low-temperature vacuum annealing. *Journal of Materials Chemistry C*, **2018**, 6, 1567-1572	7.1	15
131	Tuning the Threshold Voltage of Exfoliated Ga2O3Flake-Based Field-Effect Transistors by Photo-Enhanced H3PO4Wet Etching. *ECS Journal of Solid State Science and Technology*, **2018**, 7, Q148-Q151	2	15
130	Programmable Multilevel Memtransistors Based on van der Waals Heterostructures. *Advanced Electronic Materials*, **2019**, 5, 1900333	6.4	15
129	White Light Emission from Blue InGaN LED with Fluorescent Conjugated Polymer Blends. *Polymer Journal*, **2009**, 41, 1076-1079	2.7	15
128	Penetration Effects of High-Energy Protons in GaN: A Micro-Raman Spectroscopy Study. *Electrochemical and Solid-State Letters*, **2011**, 14, H5		15
127	GaN-Based Light-Emitting Diode With Three-Dimensional Silver Reflectors. *IEEE Photonics Technology Letters*, **2009**, 21, 700-702	2.2	15
126	Highly selective ozone-treated Ga2O3 solar-blind deep-UV photodetectors. *Applied Physics Letters*, **2020**, 117, 261101	3.4	15
125	Hydrogen Sensing Characteristics of Pt Schottky Diodes on () and (010) Ga2O3Single Crystals. *ECS Journal of Solid State Science and Technology*, **2018**, 7, Q3180-Q3182	2	15
124	Nafion membranes with a sulfonated organic additive for the use in vanadium redox flow batteries. *Journal of Applied Polymer Science*, **2019**, 136, 47547	2.9	14
123	Enhancement of the Light-Extraction Efficiency of GaN-Based Light Emitting Diodes Using Graded-Refractive-Index Layer by SiO[sub 2] Nanosphere Lithography. *Journal of the Electrochemical Society*, **2010**, 157, H449	3.9	14
122	Controlling the threshold voltage of Ga2O3 field-effect transistors via remote fluorine plasma treatment. *Journal of Materials Chemistry C*, **2019**, 7, 8855-8860	7.1	13
121	Eighteen mega-electron-volt alpha-particle damage in homoepitaxial Ga2O3 Schottky rectifiers. *Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics*, **2018**, 36, 031205	1.3	13
120	All-2D ReS transistors with split gates for logic circuitry. *Scientific Reports*, **2019**, 9, 10354	4.9	13
119	CdTe microwire-based ultraviolet photodetectors aligned by a non-uniform electric field. *Applied Physics Letters*, **2013**, 103, 051906	3.4	13
118	Synthesis and Application of Non-Toxic ZnCuInS2ZnS Nanocrystals for White LED by Hybridization with Conjugated Polymer. *Journal of the Electrochemical Society*, **2011**, 158, H1218	3.9	13

117	Improved dc and power performance of AlGaN/GaN high electron mobility transistors with Sc2O3 gate dielectric or surface passivation. *Solid-State Electronics*, **2003**, 47, 1781-1786	1.7	13
116	160-A bulk GaN Schottky diode array. *Applied Physics Letters*, **2003**, 83, 3192-3194	3.4	13
115	Study on the effects of proton irradiation on the dc characteristics of AlGaN/GaN high electron mobility transistors with source field plate. *Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics*, **2014**, 32, 022202	1.3	12
114	GaN-based light-emitting diodes on graphene-coated flexible substrates. *Optics Express*, **2014**, 22 Suppl 3, A812-7	3.3	12
113	Effects of 340 keV proton irradiation on InGaN/GaN blue light-emitting diodes. *Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics*, **2015**, 33, 051215	1.3	11
112	The role of cleaning conditions and epitaxial layer structure on reliability of Sc2O3 and MgO passivation on AlGaN/GaN HEMTS. *Solid-State Electronics*, **2002**, 46, 2185-2190	1.7	11
111	Effect of proton irradiation energy on SiNx/AlGaN/GaN metal-insulator semiconductor high electron mobility transistors. *Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics*, **2018**, 36, 052202	1.3	11
110	Deep level defect states in □ and e-Ga2O3 crystals and films: Impact on device performance. *Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films*, **2022**, 40, 020804	2.9	11
109	60Co Gamma Ray Damage in Homoepitaxial □Ga2O3Schottky Rectifiers. *ECS Journal of Solid State Science and Technology*, **2019**, 8, Q3041-Q3045	2	10
108	Layer-by-layer AuCl3 doping of stacked graphene films. *Physica Status Solidi - Rapid Research Letters* , **2014**, 8, 441-444	2.5	10
107	Electrical characterization of 60Co gamma radiation-exposed InAlN/GaN high electron mobility transistors. *Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics*, **2013**, 31, 051210	1.3	10
106	Investigation of carrier transport properties in semipolar (112□2) GaN films with low defect density. *Applied Physics Letters*, **2013**, 103, 162103	3.4	10
105	Laser ablation of via holes in GaN and AlGaN□GaN high electron mobility transistor structures. *Journal of Vacuum Science & Technology B*, **2006**, 24, 2246		10
104	Recovery of the Pristine Surface of Black Phosphorus by Water Rinsing and Its Device Application. *ACS Applied Materials & Interfaces*, **2017**, 9, 21382-21389	9.5	9
103	Ambipolar Charge Transport in Two-Dimensional WS Metal-Insulator-Semiconductor and Metal-Insulator-Semiconductor Field-Effect Transistors. *ACS Applied Materials & Interfaces*, **2020**, 12, 23127-23133	9.5	9
102	Programmable Synapse-Like MoS2 Field-Effect Transistors Phase-Engineered by Dynamic Lithium Ion Modulation. *Advanced Electronic Materials*, **2020**, 6, 1901410	6.4	9
101	Optical Signature of the Electron Injection in Ga2O3. *ECS Journal of Solid State Science and Technology*, **2017**, 6, Q3049-Q3051	2	9
100	Large-area suspended graphene on GaN nanopillars. *Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics*, **2011**, 29, 060601	1.3	9

99	Experimental study of plasmonically enhanced GaN nanowire light emitters. *Physica Status Solidi (A) Applications and Materials Science*, **2008**, 205, 378-382	1.6	9
98	Selective p-Doping of 2D WSe UV/Ozone Treatments and Its Application in Field-Effect Transistors. *ACS Applied Materials & Interfaces*, **2021**, 13, 955-961	9.5	9
97	High responsivity solar-blind metal-semiconductor-metal photodetector based on Ga2O3. *Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films*, **2021**, 39, 033410	2.9	9
96	Will surface effects dominate in quasi-two-dimensional gallium oxide for electronic and photonic devices?. *Nanoscale Horizons*, **2019**, 4, 1251-1255	10.8	8
95	An in-plane WSe2 p homojunction two-dimensional diode by laser-induced doping. *Journal of Materials Chemistry C*, **2020**, 8, 8393-8398	7.1	8
94	Chemical Doping Effects of Gas Molecules on Black Phosphorus Field-Effect Transistors. *ECS Journal of Solid State Science and Technology*, **2018**, 7, Q3065-Q3069	2	8
93	Effect of proton irradiation energy on AlGaN/GaN metal-oxide semiconductor high electron mobility transistors. *Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics*, **2015**, 33, 051208	1.3	8
92	A facile method for highly uniform GaN-based nanorod light-emitting diodes with InGaN/GaN multi-quantum-wells. *Optics Express*, **2013**, 21, 12908-13	3.3	8
91	Electroluminescence from ZnO nanoflowers/GaN thin film p-n heterojunction. *Applied Physics Letters*, **2010**, 97, 082111	3.4	8
90	Electrical characterizations of Neutron-irradiated SiC Schottky diodes. *Korean Journal of Chemical Engineering*, **2009**, 26, 285-287	2.8	8
89	Optical and electrical characterization of (Ga,Mn)N/InGaN multiquantum well light-emitting diodes. *Journal of Electronic Materials*, **2004**, 33, 467-471	1.9	8
88	Comparison of the electrical and luminescent properties of p-layer-up and n-layer-up GaN/InGaN light emitting diodes and the effects of Mn doping of the upper n-layer. *Solid-State Electronics*, **2003**, 47, 981-987	1.7	8
87	Activation kinetics of implanted Si+ in GaN and application to fabricating lateral Schottky diodes. *Applied Physics Letters*, **2003**, 83, 4987-4989	3.4	8
86	Magneto-optical properties of Cr3+ in Ga2O3. *Applied Physics Letters*, **2021**, 119, 052101	3.4	8
85	Morphological-Electrical Property Relation in Cu(In,Ga)(S,Se) Solar Cells: Significance of Crystal Grain Growth and Band Grading by Potassium Treatment. *Small*, **2020**, 16, e2003865	11	7
84	Chemical bath deposition of cadmium sulfide on graphene-coated flexible glass substrate. *Applied Physics Letters*, **2014**, 104, 133902	3.4	7
83	Polarization and Space-Charge-Limited Current in III-Nitride Heterostructure Nanowires. *IEEE Transactions on Electron Devices*, **2011**, 58, 3401-3406	2.9	7
82	Gallium nitride light emitter on a patterned sapphire substrate for improved defectivity and light extraction efficiency. *Current Applied Physics*, **2011**, 11, 682-686	2.6	7

81	Violet electroluminescence from p-GaN thin film/n-GaN nanowire homojunction. *Applied Physics Letters*, **2010**, 96, 132105	3.4	7
80	Carbon monoxide detection sensitivity of ZnO nanorod-gated AlGaN/GaN high electron mobility transistors in different temperature environments. *Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics*, **2012**, 30, 010606	1.3	7
79	Electrical and Optical Damage to GaN-Based Light-Emitting Diodes by 20-MeV Proton Irradiation. *Science of Advanced Materials*, **2016**, 8, 160-163	2.3	7
78	Photoelectrochemical etching of ultra-wide bandgap □Ga2O3 semiconductor in phosphoric acid and its optoelectronic device application. *Applied Surface Science*, **2021**, 539, 148130	6.7	7
77	High Gain □Ga2O3 Solar-Blind Schottky Barrier Photodiodes via Carrier Multiplication Process. *ECS Journal of Solid State Science and Technology*, **2018**, 7, Q196-Q200	2	7
76	A simple chemical route for composition graded Cu(In,Ga)S2 thin film solar cells: multi-stage paste coating. *RSC Advances*, **2015**, 5, 103439-103444	3.7	6
75	Vertical zinc oxide nanowires embedded in self-assembled photonic crystal. *Photonics and Nanostructures - Fundamentals and Applications*, **2011**, 9, 91-94	2.6	6
74	Neutron irradiation on AlGaN/GaN high electron mobility transistors on SiC substrates. *Journal of Crystal Growth*, **2011**, 326, 205-207	1.6	6
73	Effects of semiconductor processing chemicals on conductivity of graphene. *Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics*, **2012**, 30, 040602	1.3	6
72	Electrical properties and deep trap spectra in Ga2O3 films grown by halide vapor phase epitaxy on p-type diamond substrates. *Journal of Applied Physics*, **2021**, 129, 185701	2.5	6
71	Effects of proton irradiation and thermal annealing on off-state step-stressed AlGaN/GaN high electron mobility transistors. *Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics*, **2016**, 34, 041231	1.3	6
70	Photo-Enhanced Acid Chemical Etching of High-Quality Aluminum Nitride Grown by Metal-Organic Chemical Vapor Deposition. *ECS Journal of Solid State Science and Technology*, **2019**, 8, N42-N46	2	5
69	Probing patterned defects on graphene using differential interference contrast observation. *Applied Physics Letters*, **2015**, 106, 081901	3.4	5
68	Effects of defect density on ultrathin graphene-based metal diffusion barriers. *Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films*, **2015**, 33, 061510	2.9	5
67	Degradation of dc characteristics of InAlN/GaN high electron mobility transistors by 5 MeV proton irradiation. *Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics*, **2012**, 30, 031202	1.3	5
66	A 0.004mm2 250W □TDC with time-difference accumulator and a 0.012mm2 2.5mW bang-bang digital PLL using PRNG for low-power SoC applications **2012**,		5
65	High Dose Gamma-Ray Irradiation of SiC Schottky Rectifiers. *Electrochemical and Solid-State Letters*, **2003**, 6, G105		5
64	Dual-field plated □Ga2O3 nano-FETs with an off-state breakdown voltage exceeding 400 V. *Journal of Materials Chemistry C*, **2020**, 8, 2687-2692	7.1	5

63	A 0.02mm2 fully synthesizable period-jitter sensor using stochastic TDC without reference clock and calibration in 10nm CMOS technology **2018**,		4
62	Simulation and experimental study of ArF 193 nm laser lift-off AlGaN/GaN high electron mobility transistors. *Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics*, **2012**, 30, 011203	1.3	4
61	Capacitive Chemical Sensors Based on Two-Dimensional WSe2. *ECS Journal of Solid State Science and Technology*, **2020**, 9, 115020	2	4
60	Achieving over 15% Efficiency in Solution-Processed Cu(In,Ga)(S,Se) Thin-Film Solar Cells via a Heterogeneous-Formation-Induced Benign p-n Junction Interface. *ACS Applied Materials & Interfaces*, **2021**, 13, 13289-13300	9.5	4
59	Large-scale synthesis of atomically thin ultrawide bandgap Ga2O3 using a liquid gallium squeezing technique. *Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films*, **2021** , 39, 033409	2.9	4
58	Defect-Engineered n-Doping of WSe2 via Argon Plasma Treatment and Its Application in Field-Effect Transistors. *Advanced Materials Interfaces*, **2021**, 8, 2100718	4.6	4
57	Radiation damage in Ga2O3 **2019**, 313-328		4
56	Design of Ga2O3 modulation doped field effect transistors. *Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films*, **2021**, 39, 023412	2.9	4
55	Auto-Masked Surface Texturing of Kerf-Loss Free Silicon Wafers Using Hexafluoroisopropanol in a Capacitively Coupled Plasma Etching System. *ECS Journal of Solid State Science and Technology*, **2019**, 8, Q76-Q79	2	3
54	Electrical Properties of Thermally Annealed Ga2O3 Metal-Semiconductor Field-Effect Transistors with Pt/Au Schottky Contacts. *ECS Journal of Solid State Science and Technology*, **2019**, 8, Q3122-Q3125	2	3
53	Enhancing ambipolar carrier transport of black phosphorus field-effect transistors with Ni-P alloy contacts. *Physical Chemistry Chemical Physics*, **2018**, 20, 22439-22444	3.6	3
52	Radiation Damage in GaN-Based Materials and Devices **2014**, 345-387		3
51	Selective deposition of graphene sheets on a flexible substrate by a nonuniform electric field. *Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics*, **2014**, 32, 020602	1.3	3
50	A facile method for flexible GaN-based light-emitting diodes. *Physica Status Solidi - Rapid Research Letters*, **2012**, 6, 421-423	2.5	3
49	Enhanced light emission of nano-patterned GaN via block copolymer thin films. *Korean Journal of Chemical Engineering*, **2009**, 26, 277-280	2.8	3
48	Emission enhancement from nonpolar a-plane III-nitride nanopillar. *Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics*, **2011**, 29, 021004	1.3	3
47	Defects limiting performance of devices fabricated on GaN/metal heterostructure. *Applied Physics Letters*, **2008**, 92, 212104	3.4	3
46	Growth and characterization of CdZnS thin film buffer layers by chemical bath deposition		3

45	BCl3-Based Dry Etching of Exfoliated (100) Ga2O3 Flakes. *ECS Journal of Solid State Science and Technology*, **2020**, 9, 075001	2	3
44	Ultra-Wide Bandgap Ga2O3 Heterojunction Field-Effect Transistor Using p-Type 4H-SiC Gate for Efficient Thermal Management. *ECS Journal of Solid State Science and Technology*, **2020**, 9, 065006	2	3
43	Lattice distortion analysis of nonpolar a-plane ((11bar 20)) GaN films by using a grazing-incidence X-ray diffraction technique. *Journal of the Korean Physical Society*, **2015**, 66, 607-611	0.6	2
42	Alpha Particle Irradiation of High Aluminum Content AlGan Polarization Doped Field Effect Transistors. *ECS Journal of Solid State Science and Technology*, **2020**, 9, 035008	2	2
41	Chemical etching behavior of non-polar GaN sidewalls. *Journal of Crystal Growth*, **2016**, 456, 108-112	1.6	2
40	Electroluminescence from InGaN/GaN multi-quantum-wells nanorods light-emitting diodes positioned by non-uniform electric fields. *Optics Express*, **2012**, 20, 25249-54	3.3	2
39	Electrical and luminescent properties and the spectra of deep centers in GaMnN/InGaN light-emitting diodes. *Journal of Electronic Materials*, **2004**, 33, 241-247	1.9	2
38	Lateral schottky GaN rectifiers formed by Si+ ion implantation. *Journal of Electronic Materials*, **2004**, 33, 426-430	1.9	2
37	Pt Schottky contacts to n-(Ga,Mn)N. *Applied Physics Letters*, **2002**, 81, 658-660	3.4	2
36	Self-powered solar-blind Ga2O3 thin-film UV-C photodiode grown by halide vapor-phase epitaxy. *APL Materials*, **2021**, 9, 101108	5.7	2
35	Radiation-Hard and Ultralightweight Polycrystalline Cadmium Telluride Thin-Film Solar Cells for Space Applications. *Energy Technology*, **2016**, 4, 1463-1468	3.5	2
34	Reducing the Optical Reflectance of Kerf-Loss Free Silicon Wafers via Auto-Masked CF4/O2Plasma Etch. *ECS Journal of Solid State Science and Technology*, **2018**, 7, Q88-Q91	2	2
33	Assessment of the (010) Ga2O3 surface and substrate specification. *Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films*, **2021**, 39, 013408	2.9	2
32	H trapping at the metastable cation vacancy in Ga2O3 and Al2O3. *Applied Physics Letters*, **2022**, 120, 192101	3.4	2
31	Heterojunction Bipolar Transistor: 2D Material-Based Vertical Double Heterojunction Bipolar Transistors with High Current Amplification (Adv. Electron. Mater. 3/2019). *Advanced Electronic Materials*, **2019**, 5, 1970015	6.4	1
30	A Comparative Study of Nanoparticle-Ink-Based CIGSSe Thin Film Solar Cells on Different Back Contact Substrates. *Bulletin of the Korean Chemical Society*, **2016**, 37, 361-365	1.2	1
29	High performance black phosphorus field-effect transistors with vacuum-annealed low-resistance Ohmic contact **2018**,		1
28	Rapid and Accurate Measurement of Ideality Factor and Parasitic Resistances of Thin Film Solar Cells. *ECS Journal of Solid State Science and Technology*, **2018**, 7, Q105-Q108	2	1

27	Intimate Ohmic contact to two-dimensional WSe via thermal alloying. *Nanotechnology*, **2019**, 30, 415302	3.4	1
26	III-nitride nanowire based light emitting diodes on carbon paper. *Physica Status Solidi C: Current Topics in Solid State Physics*, **2014**, 11, 442-445		1
25	A study on information transfer rate by brain-computer interface (BCI) using functional near-infrared spectroscopy (fNIRS) **2013**,		1
24	Radiation Damage in GaN-Based Materials and Devices **2013**, 1753-1764		1
23	Electrical and optical characterization of GaN micro-wires. *Journal of Crystal Growth*, **2011**, 326, 81-84	1.6	1
22	Improved Long-Term Thermal Stability At 350□C Of TiB2□Based Ohmic Contacts On AlGaN/GaN High Electron Mobility Transistors. *Journal of Electronic Materials*, **2007**, 36, 379-383	1.9	1
21	Growth and Fabrication of GaAs Thin-Film Solar Cells on a Si Substrate via Hetero Epitaxial Lift-Off. *Applied Sciences (Switzerland)*, **2022**, 12, 820	2.6	1
20	Radiation and process-induced damage in Ga2O3 **2018**,		1
19	1 GeV proton damage in □Ga2O3. *Journal of Applied Physics*, **2021**, 130, 185701	2.5	1
18	Improving the oxygen evolution reaction using electronic structure modulation of sulfur-retaining nickel-based electrocatalysts. *Journal of Materials Chemistry A*, **2021**, 9, 27034-27040	13	1
17	Improved Light Extraction Efficiency in GaN-Based Light Emitting Diodes. *Springer Series in Materials Science*, **2012**, 153-164	0.9	1
16	Radiation Damage in GaN-Based Materials and Devices **2013**, 1753-1764		1
15	Effects of Downstream Plasma Exposure on □Ga2O3 Rectifiers. *ECS Journal of Solid State Science and Technology*,	2	1
14	Reactivity of sulfur compounds in FCC decant oils for hydrodesulfurization over CoMoS2/Al2O3 catalysts. *Korean Journal of Chemical Engineering*, **2021**, 38, 1179-1187	2.8	1
13	Annealing of Proton and Alpha Particle Damage in Au-W/□Ga2O3 Rectifiers. *ECS Journal of Solid State Science and Technology*, **2019**, 8, P799-P804	2	1
12	Ga2O3 nanobelt devices **2019**, 331-368		1
11	Capacitive □Ga2O3 solar-blind photodetector with graphene electrode. *Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films*, **2021**, 39, 053412	2.9	1
10	DILUTE MAGNETIC GaN, SiC AND RELATED SEMICONDUCTORS **2003**, 477-510		0

9	Preface□SS Focus Issue on Gallium Oxide Based Materials and Devices II. *ECS Journal of Solid State Science and Technology*, **2020**, 9, 060001	2	0
8	Exfoliated and bulk □gallium oxide electronic and photonic devices **2022**, 1, 100001		0
7	(100) Plane □Ga2O3 Flake Based Field Effect Transistor and Its Hydrogen Response. *ECS Journal of Solid State Science and Technology*, **2021**, 10, 125004	2	0
6	Graphene-based Chemical Sensors **2016**, 221-243		
5	High-energy proton irradiation damage on two-dimensional hexagonal boron nitride.. *RSC Advances* , **2019**, 9, 18326-18332	3.7	
4	Nickel Foam as a Substrate for III-nitride Nanowire Growth. *Materials Research Society Symposia Proceedings*, **2013**, 1538, 311-316		
3	Optical characterizations of GaN nanorods fabricated by natural lithography. *Korean Journal of Chemical Engineering*, **2010**, 27, 693-696	2.8	
2	Capacitance□oltage characteristics of Pt/hBN/WSe2 metal□nsulator□emiconductor capacitor doped by charge-transfer process. *Applied Physics Letters*, **2022**, 120, 023102	3.4	
1	Neuromorphic Devices: Artificial Neuron and Synapse Devices Based on 2D Materials (Small 20/2021). *Small*, **2021**, 17, 2170092	11	