Jung-Hun Seo

List of Publications by Year
in descending order

128 papers	3,736 citations	147801 31 h-index	138484 58 g-index
134 all docs	134 docs citations	134 times ranked	5239 citing authors

#	Article	IF	Citations
1	Progress in 2D photonic crystal Fano resonance photonics. Progress in Quantum Electronics, 2014, 38, 1-74.	7.0	232
2	Transfer-printed stacked nanomembrane lasers on silicon. Nature Photonics, 2012, 6, 615-620.	31.4	195
3	Materials for Bioresorbable Radio Frequency Electronics. Advanced Materials, 2013, 25, 3526-3531.	21.0	189
4	Recent advances in free-standing single crystalline wide band-gap semiconductors and their applications: GaN, SiC, ZnO, Î²-Ga₂O₃, and diamond. Journal of Materials Chemistry C, 2017, 5, 8338-8354.	5.5	180
5	Origami silicon optoelectronics for hemispherical electronic eye systems. Nature Communications, 2017, 8, 1782.	12.8	177
6	Highly Stretchable Carbon Nanotube Transistors with Ion Gel Gate Dielectrics. Nano Letters, 2014, 14, 682-686.	9.1	152
7	Biodegradable Thin Metal Foils and Spinâ€On Glass Materials for Transient Electronics. Advanced Functional Materials, 2015, 25, 1789-1797.	14.9	135
8	12â€GHz Thinâ€Film Transistors on Transferrable Silicon Nanomembranes for Highâ€Performance Flexible Electronics. Small, 2010, 6, 2553-2557.	10.0	133
9	Nanometre-thick single-crystalline nanosheets grown at the waterâ€“air interface. Nature Communications, 2016, 7, 10444.	12.8	133
10	Interface Engineering by Piezoelectric Potential in ZnO-Based Photoelectrochemical Anode. Nano Letters, 2011, 11, 5587-5593.	9.1	131
11	Nanopatterning by Laser Interference Lithography: Applications to Optical Devices. Journal of Nanoscience and Nanotechnology, 2014, 14, 1521-1532.	0.9	108
12	Fast flexible electronics with strained silicon nanomembranes. Scientific Reports, 2013, 3, 1291.	3.3	100
13	Cl-Doped ZnO Nanowires with Metallic Conductivity and Their Application for High-Performance Photoelectrochemical Electrodes. ACS Applied Materials & Interfaces, 2014, 6, 1288-1293.	8.0	80
14	Flexible Phototransistors Based on Singleâ€Crystalline Silicon Nanomembranes. Advanced Optical Materials, 2016, 4, 120-125.	7.3	76
15	Fast flexible electronics using transferrable silicon nanomembranes. Journal Physics D: Applied Physics, 2012, 45, 143001.	2.8	74
16	Double-layer Fano resonance photonic crystal filters. Optics Express, 2013, 21, 24582.	3.4	74
17	Stable p-Type Conduction from Sb-Decorated Head-to-Head Basal Plane Inversion Domain Boundaries in ZnO Nanowires. Nano Letters, 2012, 12, 1311-1316.	9.1	61
18	Microwave flexible transistors on cellulose nanofibrillated fiber substrates. Applied Physics Letters, 2015, 106, .	3.3	59

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19	226â€‰nm AlGaN/AlN UV LEDs using p-type Si for hole injection and UV reflection. Applied Physics Letters, 2018, 113, .	3.3	59
20	Coupled double-layer Fano resonance photonic crystal filters with lattice-displacement. Applied Physics Letters, 2013, 103, .	3.3	58
21	An aqueous solution-based doping strategy for large-scale synthesis of Sb-doped ZnO nanowires. Nanotechnology, 2011, 22, 225602.	2.6	53
22	229â€‰nm UV LEDs on aluminum nitride single crystal substrates using p-type silicon for increased hole injection. Applied Physics Letters, 2018, 112, .	3.3	52
23	Flexible Î²â€Ga₂O₃ Nanomembrane Schottky Barrier Diodes. Advanced Electronic Materials, 2019, 5, 1800714.	5.1	47
24	Chalcogenide perovskite BaZrS3 thin-film electronic and optoelectronic devices by low temperature processing. Nano Energy, 2021, 85, 105959.	16.0	46
25	Substrate-Free Self-Assembly Approach toward Large-Area Nanomembranes. ACS Nano, 2012, 6, 2602-2609.	14.6	38
26	High Performance Flexible Visible-Blind Ultraviolet Photodetectors with Two-Dimensional Electron Gas Based on Unconventional Release Strategy. ACS Nano, 2021, 15, 8386-8396.	14.6	38
27	RF Characterization of Gigahertz Flexible Silicon Thin-Film Transistor on Plastic Substrates Under Bending Conditions. IEEE Electron Device Letters, 2013, 34, 262-264.	3.9	36
28	High-performance flexible BiCMOS electronics based on single-crystal Si nanomembrane. Npj Flexible Electronics, 2017, 1, .	10.7	36
29	A Simplified Method of Making Flexible Blue LEDs on a Plastic Substrate. IEEE Photonics Journal, 2015, 7, 1-7.	2.0	35
30	Flexible and Transparent Organic Phototransistors on Biodegradable Cellulose Nanofibrillated Fiber Substrates. Advanced Optical Materials, 2018, 6, 1701140.	7.3	34
31	Flexible crystalline Î²-Ga₂O₃solar-blind photodetectors. Journal of Materials Chemistry C, 2020, 8, 14732-14739.	5.5	34
32	Fast Flexible Transistors with a Nanotrench Structure. Scientific Reports, 2016, 6, 24771.	3.3	33
33	Low dimensional freestanding semiconductors for flexible optoelectronics: materials, synthesis, process, and applications. Materials Research Letters, 2020, 8, 123-144.	8.7	32
34	A 6,13-bis(Triisopropylsilylethynyl) Pentacene Thin-Film Transistor Using a Spun-On Inorganic Gate-Dielectric. IEEE Transactions on Electron Devices, 2008, 55, 500-505.	3.0	31
35	Thermal diffusion boron doping of single-crystal natural diamond. Journal of Applied Physics, 2016, 119, .	2.5	31
36	Flexible germanium nanomembrane metal-semiconductor-metal photodiodes. Applied Physics Letters, 2016, 109, .	3.3	30

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37	Transferrable single crystalline 4H-SiC nanomembranes. Journal of Materials Chemistry C, 2017, 5, 264-268.	5.5	30
38	Broadband Membrane Reflectors on Glass. IEEE Photonics Technology Letters, 2012, 24, 476-478.	2.5	28
39	Fabrication and Characterization of Flexible Microwave Single-Crystal Germanium Nanomembrane Diodes on a Plastic Substrate. IEEE Electron Device Letters, 2013, 34, 160-162.	3.9	28
40	Large-Area Printed Broadband Membrane Reflectors by Laser Interference Lithography. IEEE Photonics Journal, 2013, 5, 2200106-2200106.	2.0	28
41	A Multifunction Heterojunction Formed Between Pentacene and a Singleâ€Crystal Silicon Nanomembrane. Advanced Functional Materials, 2013, 23, 3398-3403.	14.9	23
42	Epitaxial VO2 thin film-based radio-frequency switches with thermal activation. Applied Physics Letters, 2017, 111, .	3.3	22
43	Direct Observation of Raman Spectra in Black Phosphorus under Uniaxial Strain Conditions. Nanomaterials, 2019, 9, 566.	4.1	22
44	Investigation of Thermal Properties of Î²-Ga₂O₃ Nanomembranes on Diamond Heterostructure Using Raman Thermometry. ECS Journal of Solid State Science and Technology, 2020, 9, 055007.	1.8	22
45	Experimental characterization and modeling of the bending strain effect on flexible microwave diodes and switches on plastic substrate. Applied Physics Letters, 2011, 99, .	3.3	21
46	Light absorption enhancement in Ge nanomembrane and its optoelectronic application. Optics Express, 2016, 24, 16894.	3.4	21
47	p-type semiconducting Î±,Ï‰-dihexylsexithiophene for an organic thin film transistor. Journal of Applied Physics, 2007, 101, 064502.	2.5	20
48	Polycrystalline GeSn thin films on Si formed by alloy evaporation. Applied Physics Express, 2015, 8, 061301.	2.4	20
49	Design of Photonic Crystal Membrane-Reflector-Based VCSELs. IEEE Photonics Journal, 2012, 4, 2169-2175.	2.0	18
50	Investigation of various mechanical bending strains on characteristics of flexible monocrystalline silicon nanomembrane diodes on a plastic substrate. Microelectronic Engineering, 2013, 110, 40-43.	2.4	17
51	Creating periodic local strain in monolayer graphene with nanopillars patterned by self-assembled block copolymer. Applied Physics Letters, 2015, 107, .	3.3	16
52	Ultra-thin distributed Bragg reflectors via stacked single-crystal silicon nanomembranes. Applied Physics Letters, 2015, 106, .	3.3	16
53	P-type silicon as hole supplier for nitride-based UVC LEDs. New Journal of Physics, 2019, 21, 023011.	2.9	16
54	Flexible radio-frequency single-crystal germanium switch on plastic substrates. Applied Physics Letters, 2014, 104, .	3.3	15

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55	Quantitative modeling of betavoltaic microbattery performance. Sensors and Actuators A: Physical, 2016, 240, 131-137.	4.1	15
56	Transfer Printed Nanomembranes for Heterogeneously Integrated Membrane Photonics. Photonics, 2015, 2, 1081-1100.	2.0	14
57	Tunable biaxial in-plane compressive strain in a Si nanomembrane transferred on a polyimide film. Applied Physics Letters, 2015, 106, .	3.3	14
58	Capacitance-voltage characteristics of Si and Ge nanomembrane based flexible metal-oxide-semiconductor devices under bending conditions. Applied Physics Letters, 2016, 108, 233505.	3.3	14
59	Prediction of optical band gap of Î²-(Al x Ga 1-x) 2 O 3 using material informatics. Materials Discovery, 2018, 11, 1-5.	3.3	14
60	Semiconductor nanomembranes for integrated silicon photonics and flexible Photonics. Optical and Quantum Electronics, 2012, 44, 605-611.	3.3	13
61	Distinct UVâ€“Visible Responsivity Enhancement of GaAs Photodetectors via Monolithic Integration of Antireflective Nanopillar Structure and UV Absorbing IGZO Layer. Advanced Optical Materials, 2022, 10, .	7.3	13
62	Resonant cavity germanium photodetector via stacked single-crystalline nanomembranes. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2016, 34, .	1.2	12
63	Characterizations of biodegradable epoxy-coated cellulose nanofibrils (CNF) thin film for flexible microwave applications. Cellulose, 2016, 23, 1989-1995.	4.9	12
64	Highâ€Performance Solar Blind UV Photodetectors Based on Singleâ€Crystal Si/Î²â€Ga₂O₃ pâ€n Heterojunction. Advanced Materials Technologies, 2021, 6, 2100254.	5.8	12
65	Fabrication of Ge-on-insulator wafers by Smart-Cut^{TM}with thermal management for undamaged donor Ge wafers. Semiconductor Science and Technology, 2018, 33, 015017.	2.0	11
66	Large-size free-standing single-crystal Î²-Ga₂O₃ membranes fabricated by hydrogen implantation and lift-off. Journal of Materials Chemistry C, 0, , .	5.5	11
67	Fabrication of AlGaAs/GaAs/diamond heterojunctions for diamond-collector HBTs. AIP Advances, 2020, 10, .	1.3	11
68	A zinc-oxide thin-film transistor using a spun-on dielectric and gate electrode. Journal Physics D: Applied Physics, 2009, 42, 065105.	2.8	10
69	Fast Flexible Electronics Based on Printable Thin Mono-Crystalline Silicon. ECS Transactions, 2011, 34, 137-142.	0.5	10
70	Amorphous Si/SiO2 distributed Bragg reflectors with transfer printed single-crystalline Si nanomembranes. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2016, 34, .	1.2	10
71	Recent Progress in Gallium Oxide and Diamond Based High Power and High-Frequency Electronics. International Journal of High Speed Electronics and Systems, 2019, 28, 1940004.	0.7	10
72	On the bending characterization of flexible radio-frequency single-crystalline germanium diodes on a plastic substrate. Applied Physics Letters, 2015, 106, .	3.3	9

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73	Effect of modifying a methyl siloxane-based dielectric by a polymer thin film for pentacene thin-film transistors. Applied Surface Science, 2008, 254, 6987-6990.	6.1	8
74	Releasable AlGaN/GaN 2D Electron Gas Heterostructure Membranes for Flexible Wideâ€Bandgap Electronics. Advanced Electronic Materials, 2022, 8, 2100652.	5.1	8
75	Electroforming-Free HfO₂:CeO₂ Vertically Aligned Nanocomposite Memristors with Anisotropic Dielectric Response. ACS Applied Electronic Materials, 2021, 3, 5278-5286.	4.3	8
76	Direct Growth of Two Dimensional Molybdenum Disulfide on Flexible Ceramic Substrate. Nanomaterials, 2019, 9, 1456.	4.1	7
77	Cryogenic operation of a 24 GHz MMIC SiGe HBT medium power amplifier. Semiconductor Science and Technology, 2010, 25, 125002.	2.0	6
78	Radio-frequency flexible and stretchable electronics: the need, challenges and opportunities. Proceedings of SPIE, 2017, , .	0.8	6
79	Triaxial compressive strain in bilayer graphene enabled by nitride stressor layer. Extreme Mechanics Letters, 2017, 11, 77-83.	4.1	6
80	Wrinkled bilayer graphene with wafer scale mechanical strain. Applied Physics Letters, 2016, 108, 183101.	3.3	5
81	On the integration of ultrananocrystalline diamond (UNCD) with CMOS chip. AIP Advances, 2017, 7, 035121.	1.3	5
82	Investigation of Nanoâ€Gaps in Fractured Î²â€Ga 2 O 3 Nanomembranes Formed by Uniaxial Strain. Advanced Electronic Materials, 2021, 7, 2000763.	5.1	5
83	A simplified method of measuring thermal conductivity of Î²-Ga₂O₃ nanomembrane. Nano Express, 2020, 1, 030010.	2.4	5
84	Design and Characterization of Photonic Crystal Membrane Reflector Based Vertical Cavity Surface Emitting Lasers on Silicon. Reviews in Nanoscience and Nanotechnology, 2014, 3, 77-87.	0.4	5
85	Influences of Native Oxide on the Properties of Ultrathin Al ₂ O ₃ â€Interfaced Si/GaAs Heterojunctions. Advanced Materials Interfaces, 0, , 2101531.	3.7	5
86	Transferrable single-crystal silicon nanomembranes and their application to flexible microwave systems. Journal of Information Display, 2011, 12, 109-113.	4.0	4
87	Detecting the Oxidation of Zircaloy Claddings by Infrared Interference. Nano, 2018, 13, 1850015.	1.0	4
88	Athermal Photonic Crystal Membrane Reflectors on Diamond. IEEE Photonics Technology Letters, 2015, 27, 1072-1075.	2.5	3
89	Epitaxial VO₂thin-film-based radio-frequency switches with electrical activation. Applied Physics Express, 2017, 10, 091101.	2.4	3
90	Semiconductor nanomembranes for integrated and flexible photonics. , 2011, , .		2

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91	Graphene RF transistors with buried bottom gate. , 2013, , .		2
92	Radio-frequency flexible electronics: Transistors and passives. , 2014, , .		2
93	Materials and design considerations for fast flexible and stretchable electronics. , 2015, , .		2
94	Microwave TFTs Made of MOCVD ZnO With ALD Al2O3Gate Dielectric. IEEE Journal of the Electron Devices Society, 2016, 4, 55-59.	2.1	2
95	Bendable MOS capacitors formed with printed In0.2Ga0.8As/GaAs/In0.2Ga0.8As trilayer nanomembrane on plastic substrates. Applied Physics Letters, 2017, 110, 133505.	3.3	2
96	Toward Diamond-Collector Heterojunction Bipolar Transistors via grafted GaAs-Diamond n-p junction. , 2019, , .		2
97	Towards High-Power Multipliers Using Diamond Schottky Barrier Diodes. , 2021, , .		2
98	Stacked fano resonance photonic crystal nanomembrane high-Q filters. , 2012, , .		1
99	Radio-frequency flexible transistors on cellulose nanofibrillated fiber (CNF) substrates. , 2015, , .		1
100	High performance flexible phototransistors based on transferrable silicon nanomembranes. , 2016, , .		1
101	Fast flexible thin-film transistors with deep submicron channel enabled by nanoimprint lithography. , 2016, , .		1
102	Editorial for the Special Issue on Wide Bandgap Semiconductor Based Micro/Nano Devices. Micromachines, 2019, 10, 213.	2.9	1
103	Theoretical Prediction of Heterogeneous Integration of Dissimilar Semiconductor with Various Ultra-Thin Oxides and 2D Materials. Electronic Materials, 2021, 2, 495-503.	1.9	1
104	Transient characteristics of Î²-Ga₂O₃ nanomembrane Schottky barrier diodes on various substrates. Journal Physics D: Applied Physics, 2022, 55, 395101.	2.8	1
105	Frame-assisted membrane transfer for large area optoelectronic devices on flexible substrates. , 2011, , .		0
106	Fano resonance membrane reflectors from mid-infrared to far-infrared. , 2011, , .		0
107	Nanomembrane transfer printing for MR-VCSELs on silicon. , 2012, , .		0
108	Transfer printed photonic crystal nanomembrane lasers on silicon with low optical pumping threshold. , 2012, , .		0

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109	Cavity design of nanomembrane MR-VCSELs on silicon. , 2012, , .		0
110	Fabrication and Characterization of Si/GaInP Heterojunction Photodetectors. , 2012, , .		0
111	High-speed microwave thin-film transistors based on transferrable semiconductor nanomembranes. , 2012, , .		0
112	Electrically-pumped membrane-reflector surface-emitters on silicon. , 2013, , .		0
113	Toward microwave integrated circuits on flexible substrates (invited). , 2013, , .		0
114	Fabrication of electrically-pumped resonance-cavity membrane-reflector surface-emitters on silicon. , 2013, , .		0
115	Increasing the speed of flexible electronics. , 2013, , .		0
116	Transfer printed nanomembrane high-Q filters based on displaced double-layer fano resonance photonic crystal slabs. , 2013, , .		0
117	15-GHz flexible microwave thin-film transistors on plastic. , 2013, , .		0
118	Thermally engineered photonic crystal membrane reflectors based on transferred nanomembranes on diamond. , 2014, , .		0
119	High-performance flexible microwave passives on plastic. Proceedings of SPIE, 2014, , .	0.8	0
120	Transient Eletronics: Biodegradable Thin Metal Foils and Spin-On Glass Materials for Transient Electronics (Adv. Funct. Mater. 12/2015). Advanced Functional Materials, 2015, 25, 1904-1904.	14.9	0
121	High-reflection Si/SiO<inf>2</inf> Bragg reflector via membrane transfer printing. , 2015, , .		0
122	Green microwave electronics for the coming era of flexible electronics. , 2016, , .		0
123	Radio-frequency flexible and stretchable electronics (Key note). , 2016, , .		0
124	Cavity enhanced 1.5Î¼m LED with silicon as a hole injector. , 2016, , .		0
125	Flexible Si BiCMOS on plastic substrates. , 2017, , .		0
126	High-Reflectivity DUV Mirrors Prepared by Direct Sputtering. , 2016, , .		0

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127	Flexible CMOS chip converted by a novel chip transformation process. Electronics Letters, 2020, 56, 1335-1337.	1.0	0
128	Bilayer metal etch mask strategy for deep diamond etching. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2022, 40, 022210.	1.2	0