

Kwang Hong Lee

List of Publications by Year in descending order

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80
papers

1,344
citations

304743

22
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377865

34
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81
all docs

81
docs citations

81
times ranked

1297
citing authors

#	ARTICLE	IF	CITATIONS
1	Releasable AlGaIn/GaN 2D Electron Gas Heterostructure Membranes for Flexible Wide-Bandgap Electronics. <i>Advanced Electronic Materials</i> , 2022, 8, 2100652.	5.1	8
2	Metal-Semiconductor-Metal Photodetectors on a GeSn-on-Insulator Platform for 2 Åm Applications. <i>IEEE Photonics Journal</i> , 2022, 14, 1-6.	2.0	5
3	Low-power and high-detectivity Ge photodiodes by in-situ heavy As doping during Ge-on-Si seed layer growth. <i>Optics Express</i> , 2021, 29, 2940.	3.4	11
4	A review of silicon-based wafer bonding processes, an approach to realize the monolithic integration of Si-CMOS and III-V-on-Si wafers. <i>Journal of Semiconductors</i> , 2021, 42, 023106.	3.7	34
5	High Performance Flexible Visible-Blind Ultraviolet Photodetectors with Two-Dimensional Electron Gas Based on Unconventional Release Strategy. <i>ACS Nano</i> , 2021, 15, 8386-8396.	14.6	38
6	Sub-mA/cm ² Dark Current Density, Buffer-Less Germanium (Ge) Photodiodes on a 200-mm Ge-on-Insulator Substrate. <i>IEEE Transactions on Electron Devices</i> , 2021, 68, 1730-1737.	3.0	10
7	PIC-integrable, uniformly tensile-strained Ge-on-insulator photodiodes enabled by recessed SiN _x stressor. <i>Photonics Research</i> , 2021, 9, 1255.	7.0	6
8	Gourd-shaped hole array germanium (Ge)-on-insulator photodiodes with improved responsivity and specific detectivity at 1,550 nm. <i>Optics Express</i> , 2021, 29, 16520.	3.4	7
9	CMOS-Compatible Ti/TiN/Al Refractory Ohmic Contact for GaAs Heterojunction Bipolar Transistors Grown on Ge/Si Substrate. <i>IEEE Transactions on Electron Devices</i> , 2021, 68, 6065-6068.	3.0	2
10	Suspended germanium membranes photodetector with tunable biaxial tensile strain and location-determined wavelength-selective photoresponsivity. <i>Applied Physics Letters</i> , 2021, 119, .	3.3	6
11	Dark current analysis of germanium-on-insulator vertical p-i-n photodetectors with varying threading dislocation density. <i>Journal of Applied Physics</i> , 2020, 127, .	2.5	35
12	High-Frequency Characteristics of InGaP/GaAs Double Heterojunction Bipolar Transistor Epitaxially Grown on 200 mm Ge/Si Wafers. <i>IEEE Journal of the Electron Devices Society</i> , 2020, 8, 122-125.	2.1	2
13	Growth and Characterizations of GeSn Films with High Sn Composition by Chemical Vapor Deposition (CVD) Using Ge ₂ H ₆ and SnCl ₄ for Mid-IR Applications. <i>ECS Transactions</i> , 2020, 98, 91-98.	0.5	6
14	High-efficiency GeSn/Ge multiple-quantum-well photodetectors with photon-trapping microstructures operating at 2 Åm. <i>Optics Express</i> , 2020, 28, 10280.	3.4	67
15	Resonant-cavity-enhanced responsivity in germanium-on-insulator photodetectors. <i>Optics Express</i> , 2020, 28, 23739.	3.4	22
16	High speed and ultra-low dark current Ge vertical p-i-n photodetectors on an oxygen-annealed Ge-on-insulator platform with GeO _x surface passivation. <i>Optics Express</i> , 2020, 28, 23978.	3.4	23
17	Ge-on-insulator lateral p-i-n waveguide photodetectors for optical communication. <i>Optics Letters</i> , 2020, 45, 6683.	3.3	7
18	Improved thin film quality and photoluminescence of N-doped epitaxial germanium-on-silicon using MOCVD. <i>Optical Materials Express</i> , 2020, 10, 1.	3.0	3

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19	High-efficiency photo detection at 2 μm realized by GeSn/Ge multiple-quantum-well photodetectors with photon-trapping microstructure. , 2020, , .		0
20	Investigation of Resonant-Cavity-Enhanced GeSn Photodetectors in Short-Wavelength Infrared Regime. , 2019, , .		0
21	Dark Current Analysis of Vertical p-i-n Photodetectors on a Germanium-on-Insulator Platform. , 2019, , .		1
22	Germanium Photodetectors with 60-nm Absorption Coverage Extension and $\sim 42\%$ Quantum Efficiency Enhancement across L-Band. , 2019, , .		1
23	Metal-semiconductor-metal photodetectors on a GeSn-on-insulator platform. , 2019, , .		3
24	Integrating GeSn photodiode on a 200 mm Ge-on-insulator photonics platform with Ge CMOS devices for advanced OEIC operating at 2 μm band. Optics Express, 2019, 27, 26924.	3.4	28
25	High brightness and bonding yield of integrated Si-CMOS and GaN LED wafers. , 2019, , .		0
26	Strain relaxation of germanium-tin (GeSn) fins. AIP Advances, 2018, 8, 025111.	1.3	6
27	Curvature evolution of 200 mm diameter GaN-on-insulator wafer fabricated through metalorganic chemical vapor deposition and bonding. Japanese Journal of Applied Physics, 2018, 57, 051002.	1.5	1
28	Monolithic Integration of InSb Photodetector on Silicon for Mid-Infrared Silicon Photonics. ACS Photonics, 2018, 5, 1512-1520.	6.6	49
29	Suppression of interfacial voids formation during silane (SiH ₄)-based silicon oxide bonding with a thin silicon nitride capping layer. Journal of Applied Physics, 2018, 123, .	2.5	14
30	Monolithic Integration of Si-CMOS and III-V-on-Si Through Direct Wafer Bonding Process. IEEE Journal of the Electron Devices Society, 2018, 6, 571-578.	2.1	19
31	GeSn p-FinFETs with Sub-10 nm Fin Width Realized on a 200 mm GeSnOI Substrate: Lowest SS of 63 mV/decade, Highest $\text{G}/\text{m}, \text{int}/\text{inf}$ of 900 $\mu\text{S}/\mu\text{m}$, and High-Field eff/inf of 275 cm^2/Vs . , 2018, , .		2
32	Germanium Photodetector with Enhanced Photo-Response at the L-Band and Beyond for Integrated Photonic Applications. , 2018, , .		0
33	In _{0.49} Ga _{0.51} P/GaAs heterojunction bipolar transistors (HBTs) on 200 mm Si substrates: Effects of base thickness, base and sub-collector doping concentrations. AIP Advances, 2018, 8, 115132.	1.3	10
34	MOCVD growth of InGaP/GaAs heterojunction bipolar transistors on 200 mm Si wafers for heterogeneous integration with Si CMOS. Semiconductor Science and Technology, 2018, 33, 115011.	2.0	8
35	Performance of AlGaInP LEDs on silicon substrates through low threading dislocation density (TDD) germanium buffer layer. Semiconductor Science and Technology, 2018, 33, 104004.	2.0	5
36	Spiral Waveguides on Germanium-on-Silicon Nitride Platform for Mid-IR Sensing Applications. IEEE Photonics Journal, 2018, 10, 1-7.	2.0	23

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37	High-performance GeSn photodetector and fin field-effect transistor (FinFET) on an advanced GeSn-on-insulator platform. Optics Express, 2018, 26, 10305.	3.4	25
38	GeSn lateral p-i-n photodetector on insulating substrate. Optics Express, 2018, 26, 17312.	3.4	33
39	Impacts of doping on epitaxial germanium thin film quality and Si-Ge interdiffusion. Optical Materials Express, 2018, 8, 1117.	3.0	11
40	Germanium-Tin (GeSn) P-Channel Fin Field-Effect Transistor Fabricated on a Novel GeSn-on-Insulator Substrate. IEEE Transactions on Electron Devices, 2018, 65, 3754-3761.	3.0	26
41	High-performance AlGaInP light-emitting diodes integrated on silicon through a superior quality germanium-on-insulator. Photonics Research, 2018, 6, 290.	7.0	8
42	The integration of InGaP LEDs with CMOS on 200 mm silicon wafers. , 2017, , .		0
43	Preventing phase separation in MOCVD-grown InAlAs compositionally graded buffer on silicon substrate using InGaAs interlayers. Journal of Crystal Growth, 2017, 478, 64-70.	1.5	18
44	Hetero-epitaxy of high quality germanium film on silicon substrate for optoelectronic integrated circuit applications. Journal of Materials Research, 2017, 32, 4025-4040.	2.6	15
45	Germanium-on-insulator virtual substrate for InGaP epitaxy. Materials Science in Semiconductor Processing, 2017, 70, 17-23.	4.0	0
46	Fabrication and characterization of single junction GaAs solar cells on Si with As-doped Ge buffer. Solar Energy Materials and Solar Cells, 2017, 172, 140-144.	6.2	23
47	The first GeSn FinFET on a novel GeSnOI substrate achieving lowest S of 79 mV/decade and record high Gm, int of 807 $\frac{1}{4}S/1\frac{1}{4}m$ for GeSn P-FETs. , 2017, , .		18
48	Control wafer bow of InGaP on 200 mm Si by strain engineering. Semiconductor Science and Technology, 2017, 32, 125013.	2.0	3
49	Germanium-on-insulator virtual substrate for InGaP epitaxy. Materials Science in Semiconductor Processing, 2017, 58, 15-21.	4.0	5
50	Germanium-on-silicon nitride: A promising platform for mid-IR sensing applications. , 2017, , .		0
51	Low-threshold optically pumped lasing in highly strained germanium nanowires. Nature Communications, 2017, 8, 1845.	12.8	131
52	Thermal stability of germanium-tin (GeSn) fins. Applied Physics Letters, 2017, 111, 252103.	3.3	7
53	MOCVD Growth of High Quality InGaAs HEMT Layers on Large Scale Si Wafers for Heterogeneous Integration With Si CMOS. IEEE Transactions on Semiconductor Manufacturing, 2017, 30, 456-461.	1.7	6
54	Extension of Germanium-on-insulator optical absorption edge using CMOS-compatible silicon nitride stressor. , 2017, , .		4

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55	High-efficiency normal-incidence vertical p-i-n photodetectors on a germanium-on-insulator platform. Photonics Research, 2017, 5, 702.	7.0	52
56	Integration of InGaAs MOSFETs and GaAs/ AlGaAs lasers on Si Substrate for advanced opto-electronic integrated circuits (OEICs). Optics Express, 2017, 25, 31853.	3.4	6
57	Epitaxy and characterization of GaInP/AlInP light-emitting diodes on As-doped Ge/Si substrates. Optics Express, 2016, 24, 23129.	3.4	3
58	Modeling and fabrication of Ge-on-Si3/N4 for low bend-loss waveguides. , 2016, , .		0
59	Reduction of threading dislocation density in Ge/Si using a heavily As-doped Ge seed layer. AIP Advances, 2016, 6, .	1.3	47
60	GeSn-on-insulator substrate formed by direct wafer bonding. Applied Physics Letters, 2016, 109, .	3.3	31
61	Epitaxy and wafer bonding of AlGaInP multiple-quantum wells and light-emitting diodes on 8Å ³ Si substrates. , 2016, , .		0
62	Germanium-on-silicon nitride waveguides for mid-infrared integrated photonics. Applied Physics Letters, 2016, 109, .	3.3	66
63	In0.30/Ga0.70As QW MOSFETs with peak mobility exceeding 3000 cm ² /VÅ-s fabricated on Si substrates. , 2016, , .		0
64	High quality Ge-OI, IIIâ€V-OI on 200 mm Si substrate. , 2016, , .		0
65	Integration of GaAs, GaN, and Si-CMOS on a common 200 mm Si substrate through multilayer transfer process. Applied Physics Express, 2016, 9, 086501.	2.4	33
66	Heteroepitaxial growth of In0.30Ga0.70As high-electron mobility transistor on 200 mm silicon substrate using metamorphic graded buffer. AIP Advances, 2016, 6, 085106.	1.3	14
67	Red InGaP light-emitting diodes epitaxially grown on engineered Ge-on-Si substrates. , 2016, , .		4
68	Defects reduction of Ge epitaxial film in a germanium-on-insulator wafer by annealing in oxygen ambient. APL Materials, 2015, 3, .	5.1	43
69	Integration of IIIâ€V materials and Si-CMOS through double layer transfer process. Japanese Journal of Applied Physics, 2015, 54, 030209.	1.5	21
70	The role of AsH ₃ partial pressure on anti-phase boundary in GaAs-on-Ge grown by MOCVD â€ Application to a 200mm GaAs virtual substrate. Journal of Crystal Growth, 2015, 421, 58-65.	1.5	28
71	Monolithic integration of IIIâ€V HEMT and Si-CMOS through TSV-less 3D wafer stacking. , 2015, , .		14
72	Fabrication and characterization of germanium-on-insulator through epitaxy, bonding, and layer transfer. Journal of Applied Physics, 2014, 116, .	2.5	49

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73	Comparative Studies of the Growth and Characterization of Germanium Epitaxial Film on Silicon (001) with 0° and 6° Offcut. Journal of Electronic Materials, 2013, 42, 1133-1139.	2.2	26
74	Growth and characterization of germanium epitaxial film on silicon (001) with germane precursor in metal organic chemical vapour deposition (MOCVD) chamber. AIP Advances, 2013, 3, .	1.3	47
75	The Role of Polarization on 2D Plasmonic Crystals. Plasmonics, 2011, 6, 373-380.	3.4	3
76	Nanotip fabrication by Anodic Aluminum Oxide templating. Electrochimica Acta, 2011, 56, 2394-2398.	5.2	10
77	Variation of Nanopore Diameter Along Porous Anodic Alumina Channels by Multi-Step Anodization. Journal of Nanoscience and Nanotechnology, 2011, 11, 1147-1153.	0.9	3
78	Fabrication of periodic square arrays by angle-resolved nanosphere lithography. Microelectronic Engineering, 2010, 87, 1941-1944.	2.4	9
79	Interferential lithography of 1D thin metallic sinusoidal gratings: Accurate control of the profile for azimuthal angular dependent plasmonic effects and applications. Microelectronic Engineering, 2009, 86, 573-576.	2.4	21
80	Decoupling two-step anodization in anodic aluminum oxide. Journal of Applied Physics, 2009, 106, 104305.	2.5	18