

# Mitsuru Takenaka

## List of Publications by Year in descending order

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#	ARTICLE	IF	CITATIONS
1	Carrier-Transport-Enhanced Channel CMOS for Improved Power Consumption and Performance. IEEE Transactions on Electron Devices, 2008, 55, 21-39.	1.6	324
2	Evidence of low interface trap density in GeO <sub>2</sub> /Ge metal-oxide-semiconductor structures fabricated by thermal oxidation. Applied Physics Letters, 2008, 93, .	1.5	299
3	High-Mobility Ge p- and n-MOSFETs With 0.7-nm EOT Using $\text{HfO}_2/\text{Al}_2\text{O}_3/\text{GeO}_x/\text{Ge}$ Gate Stacks Fabricated by Plasma Postoxidation. IEEE Transactions on Electron Devices, 2013, 60, 927-934.	1.6	193
4	High-Mobility Ge pMOSFET With 1-nm EOT $\text{Al}_2\text{O}_3/\text{GeO}_x/\text{Ge}$ Gate Stack Fabricated by Plasma Post Oxidation. IEEE Transactions on Electron Devices, 2012, 59, 335-341.	1.6	168
5	Efficient low-loss InGaAsP/Si hybrid MOS optical modulator. Nature Photonics, 2017, 11, 486-490.	15.6	166
6	1-nm-capacitance-equivalent-thickness HfO <sub>2</sub> /Al <sub>2</sub> O <sub>3</sub> /InGaAs metal-oxide-semiconductor structure with low interface trap density and low gate leakage current density. Applied Physics Letters, 2012, 100, .	1.5	146
7	Al <sub>2</sub> O <sub>3</sub> / GeO <sub>x</sub> / Ge gate stacks with low interface trap density fabricated by electron cyclotron resonance plasma postoxidation. Applied Physics Letters, 2011, 98, .	1.5	143
8	Dark current reduction of Ge photodetector by GeO <sub>2</sub> surface passivation and gas-phase doping. Optics Express, 2012, 20, 8718.	1.7	138
9	Surface orientation dependence of interface properties of GeO <sub>2</sub> /Ge metal-oxide-semiconductor structures fabricated by thermal oxidation. Journal of Applied Physics, 2009, 106, .	1.1	98
10	High-Performance $\text{GeO}_2/\text{Ge}$ nMOSFETs With Source/Drain Junctions Formed by Gas-Phase Doping. IEEE Electron Device Letters, 2010, 31, 1092-1094.	2.2	86
11	Novel Ge waveguide platform on Ge-on-insulator wafer for mid-infrared photonic integrated circuits. Optics Express, 2016, 24, 11855.	1.7	78
12	Focusing subwavelength grating coupler for mid-infrared suspended membrane germanium waveguides. Optics Letters, 2017, 42, 2094.	1.7	76
13	Improved Ferroelectric/Semiconductor Interface Properties in $\text{Hf}_{0.5}\text{Zr}_{0.5}\text{O}_2$ Ferroelectric FETs by Low-Temperature Annealing. IEEE Electron Device Letters, 2020, 41, 1588-1591.	2.2	65
14	Direct Observation of Interface Charge Behaviors in FeFET by Quasi-Static Split C-V and Hall Techniques: Revealing FeFET Operation. , 2019, , .		64
15	Sub-10-nm Extremely Thin Body InGaAs-on-Insulator MOSFETs on Si Wafers With Ultrathin $\text{Al}_2\text{O}_3$ Buried Oxide Layers. IEEE Electron Device Letters, 2011, 32, 1218-1220.	2.2	60
16	High Performance Tri-Gate Extremely Thin-Body InAs-On-Insulator MOSFETs With High Short Channel Effect Immunity and $\text{SV}_{\text{mth}}$ Tunability. IEEE Transactions on Electron Devices, 2014, 61, 1354-1360.	1.6	57
17	InP photonic wire waveguide using InAlAs oxide cladding layer. Optics Express, 2007, 15, 8422.	1.7	51
18	High responsivity in MoS <sub>2</sub> phototransistors based on charge trapping HfO <sub>2</sub> dielectrics. Communications Materials, 2020, 1, .	2.9	51

#	ARTICLE	IF	CITATIONS
19	High Electron Mobility Metal-Insulator-Semiconductor Field-Effect Transistors Fabricated on (111)-Oriented InGaAs Channels. Applied Physics Express, 2009, 2, 121101.	1.1	49
20	Formation of III-V-on-insulator structures on Si by direct wafer bonding. Semiconductor Science and Technology, 2013, 28, 094009.	1.0	47
21	Strain-induced enhancement of plasma dispersion effect and free-carrier absorption in SiGe optical modulators. Scientific Reports, 2014, 4, 4683.	1.6	45
22	High $\alpha_{\text{on}}$ and low subthreshold slope planar-type InGaAs tunnel field effect transistors with Zn-diffused source junctions. Journal of Applied Physics, 2015, 118, .	1.1	44
23	Impact of thermal annealing on Ge-on-Insulator substrate fabricated by wafer bonding. Materials Science in Semiconductor Processing, 2016, 42, 259-263.	1.9	44
24	Evaluation of polarization characteristics in metal/ferroelectric/semiconductor capacitors and ferroelectric field-effect transistors. Applied Physics Letters, 2020, 116, .	1.5	44
25	Reduction in interface state density of Al <sub>2</sub> O <sub>3</sub> /InGaAs metal-oxide-semiconductor interfaces by InGaAs surface nitridation. Journal of Applied Physics, 2012, 112, 073702.	1.1	41
26	III-V/Ge MOS device technologies for low power integrated systems. Solid-State Electronics, 2016, 125, 82-102.	0.8	41
27	InP-InGaAsP Integrated 1 $\times$ 5 Optical Switch Using Arrayed Phase Shifters. IEEE Photonics Technology Letters, 2008, 20, 1063-1065.	1.3	40
28	Sub-60-nm Extremely Thin Body $\text{In}_x\text{Ga}_{1-x}\text{As}$ -On-Insulator MOSFETs on Si With Ni-InGaAs Metal S/D and MOS Interface Buffer Engineering and Its Scalability. IEEE Transactions on Electron Devices, 2013, 60, 2512-2517.	1.6	40
29	Strain Engineering of Plasma Dispersion Effect for SiGe Optical Modulators. IEEE Journal of Quantum Electronics, 2012, 48, 8-16.	1.0	39
30	Mid-infrared high-Q germanium microring resonator. Optics Letters, 2018, 43, 2885.	1.7	39
31	InGaAsP Photonic Wire Based Ultrasmall Arrayed Waveguide Grating Multiplexer on Si Wafer. Applied Physics Express, 2009, 2, 122201.	1.1	38
32	High-Performance InAs-On-Insulator n-MOSFETs With Ni-InGaAs S/D Realized by Contact Resistance Reduction Technology. IEEE Transactions on Electron Devices, 2013, 60, 3342-3350.	1.6	38
33	Ge/Si Heterojunction Tunnel Field-Effect Transistors and Their Post Metallization Annealing Effect. IEEE Transactions on Electron Devices, 2015, 62, 9-15.	1.6	37
34	Low-driving-current InGaAsP photonic-wire optical switches using III-V CMOS photonics platform. Optics Express, 2012, 20, B357.	1.7	34
35	Impact of Plasma Postoxidation Temperature on the Electrical Properties of $\text{Al}_2\text{O}_3/\text{GeO}_x/\text{Ge}$ pMOSFETs and nMOSFETs. IEEE Transactions on Electron Devices, 2014, 61, 416-422.	1.6	34
36	Group IV mid-infrared photonics [Invited]. Optical Materials Express, 2018, 8, 2276.	1.6	34

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37	IIIâ€V/Si Hybrid MOS Optical Phase Shifter for Si Photonic Integrated Circuits. Journal of Lightwave Technology, 2019, 37, 1474-1483.	2.7	34
38	Extremely-thin-body InGaAs-on-insulator MOSFETs on Si fabricated by direct wafer bonding. , 2010, , .		33
39	Suppression of ALD-Induced Degradation of Ge MOS Interface Properties by Low Power Plasma Nitridation of GeO <sub>2</sub> . Journal of the Electrochemical Society, 2011, 158, G178.	1.3	30
40	Impact of InGaAs surface nitridation on interface properties of InGaAs metal-oxide-semiconductor capacitors using electron cyclotron resonance plasma sputtering SiO <sub>2</sub> . Applied Physics Letters, 2010, 97, 132102.	1.5	29
41	Examination of Additive Mobility Enhancements for Uniaxial Stress Combined with Biaxially Strained Si, Biaxially Strained SiGe and Ge Channel MOSFETs. , 2007, , .		28
42	A Novel Characterization Scheme of $\text{Si/SiO}_2$ Interface Roughness for Surface Roughness Scattering-Limited Mobilities of Electrons and Holes in Unstrained- and Strained-Si MOSFETs. IEEE Transactions on Electron Devices, 2010, 57, 2057-2066.	1.6	28
43	Experimental Study on Electron Mobility in In <sub>x</sub> Ga <sub>1-x</sub> As-on-Insulator Metal-Oxide-Semiconductor Field-Effect Transistors With In Content Modulation and MOS Interface Buffer Engineering. IEEE Nanotechnology Magazine, 2013, 12, 621-628.	1.1	28
44	InGaAsP Grating Couplers Fabricated Using Complementary-Metalâ€Oxideâ€Semiconductor-Compatible IIIâ€V-on-Insulator on Si. Applied Physics Express, 2013, 6, 042501.	1.1	28
45	Suppression of dark current in GeO <sub>x</sub> -passivated germanium metal-semiconductor-metal photodetector by plasma post-oxidation. Optics Express, 2015, 23, 16967.	1.7	28
46	Mid-infrared germanium photonic crystal cavity. Optics Letters, 2017, 42, 2882.	1.7	27
47	Experimental study on carrier transport properties in extremely-thin body Ge-on-insulator (GOI) p-MOSFETs with GOI thickness down to 2 nm. , 2015, , .		26
48	Highly strained-SiGe-on-insulator p-channel metal-oxide-semiconductor field-effective transistors fabricated by applying Ge condensation technique to strained-Si-on-insulator substrates. Applied Physics Letters, 2011, 99, .	1.5	25
49	Impact of Fermi Level Pinning Due to Interface Traps Inside the Conduction Band on the Inversion-Layer Mobility in In <sub>x</sub> Ga <sub>1-x</sub> As Metalâ€Oxideâ€Semiconductor Field Effect Transistors. IEEE Transactions on Device and Materials Reliability, 2013, 13, 456-462.	1.5	25
50	Effects of ZrO <sub>2</sub> /Al <sub>2</sub> O <sub>3</sub> Gate-Stack on the Performance of Planar-Type InGaAs TFET. IEEE Transactions on Electron Devices, 2019, 66, 1862-1867.	1.6	25
51	Enhancement technologies and physical understanding of electron mobility in III&#x2013;V n-MOSFETs with strain and MOS interface buffer engineering. , 2011, , .		24
52	Impact of Channel Orientation on Electrical Properties of Ge p- and n-MOSFETs With 1-nm EOT Al <sub>2</sub> O <sub>3</sub> /GeO <sub>x</sub> /Ge Gate-Stacks Fabricated by Plasma Postoxidation. IEEE Transactions on Electron Devices, 2014, 61, 3668-3675.	1.6	24
53	On Surface Roughness Scattering-Limited Mobilities of Electrons and Holes in Biaxially Tensile-Strained Si MOSFETs. IEEE Electron Device Letters, 2009, 30, 987-989.	2.2	23
54	Impact of Fermi level pinning inside conduction band on electron mobility of In&#x26;#x2013;Ga&#x26;#x2013;As MOSFETs and mobility enhancement by pinning modulation. , 2011, , .		23

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55	Strained In <sub>0.53</sub> Ga <sub>0.47</sub> As metal-oxide-semiconductor field-effect transistors with epitaxial based biaxial strain. Applied Physics Letters, 2012, 100, 193510.	1.5	23
56	Atomic layer-by-layer oxidation of Ge (100) and (111) surfaces by plasma post oxidation of Al <sub>2</sub> O <sub>3</sub> /Ge structures. Applied Physics Letters, 2013, 102, .	1.5	22
57	Self-aligned Ni-CaSb source/drain junctions for GaSb p-channel metal-oxide-semiconductor field-effect transistors. Applied Physics Letters, 2014, 104, 093509.	1.5	22
58	Benchmarking Si, SiGe, and III-V/Si Hybrid SIS Optical Modulators for Datacenter Applications. Journal of Lightwave Technology, 2017, 35, 4047-4055.	2.7	22
59	Slow Trap Properties and Generation in Al <sub>2</sub> O <sub>3</sub> /GeO <sub>x</sub> /Ge MOS Interfaces Formed by Plasma Oxidation Process. ACS Applied Electronic Materials, 2019, 1, 311-317.	2.0	22
60	Ultra-power-efficient 2 × 2 Si Mach-Zehnder interferometer optical switch based on III-V/Si hybrid MOS phase shifter. Optics Express, 2018, 26, 35003.	1.7	22
61	Self-aligned metal source/drain InP n-metal-oxide-semiconductor field-effect transistors using Ni-InP metallic alloy. Applied Physics Letters, 2011, 98, 243501.	1.5	21
62	Reduction in Interface Trap Density of Al <sub>2</sub> O <sub>3</sub> /SiGe Gate Stack by Electron Cyclotron Resonance Plasma Post-nitridation. Applied Physics Express, 2013, 6, 051302.	1.1	20
63	High-Q germanium optical nanocavity. Photonics Research, 2018, 6, 925.	3.4	20
64	Analysis and Comparison of L-Valley Transport in GaAs, GaSb, and Ge Ultrathin-Body Ballistic nMOSFETs. IEEE Transactions on Electron Devices, 2013, 60, 4213-4218.	1.6	19
65	Impact of plasma post-nitridation on HfO <sub>2</sub> /Al <sub>2</sub> O <sub>3</sub> /SiGe gate stacks toward EOT scaling. Microelectronic Engineering, 2013, 109, 266-269.	1.1	19
66	Heterogeneous CMOS Photonics Based on SiGe/Ge and III-V Semiconductors Integrated on Si Platform. IEEE Journal of Selected Topics in Quantum Electronics, 2017, 23, 64-76.	1.9	19
67	Effects of impurity and composition profiles on electrical characteristics of GaAsSb/InGaAs hetero-junction vertical tunnel field effect transistors. Journal of Applied Physics, 2017, 122, .	1.1	19
68	Ge photodetector monolithically integrated with amorphous Si waveguide on wafer-bonded Ge-on-insulator substrate. Optics Express, 2018, 26, 30546.	1.7	19
69	Initial Processes of Atomic Layer Deposition of Al <sub>2</sub> O <sub>3</sub> on InGaAs: Interface Formation Mechanisms and Impact on Metal-Insulator-Semiconductor Device Performance. Materials, 2012, 5, 404-414.	1.3	18
70	Sb-Doped S/D Ultrathin Body Ge-On Insulator nMOSFET Fabricated by Improved Ge Condensation Process. IEEE Transactions on Electron Devices, 2014, 61, 3379-3385.	1.6	18
71	Fabrication and MOS interface properties of ALD Al <sub>2</sub> O <sub>3</sub> /GeO <sub>2</sub> /Ge gate stacks with plasma post oxidation. Microelectronic Engineering, 2015, 147, 244-248.	1.1	18
72	Si microring resonator crossbar arrays for deep learning accelerator. Japanese Journal of Applied Physics, 2020, 59, SGGE04.	0.8	18

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73	High mobility Ge pMOSFETs with 0.7 nm ultrathin EOT using HfO <sub>2</sub> /Al <sub>2</sub> O <sub>3</sub> /GeO <sub>x</sub> /Ge gate stacks fabricated by plasma post oxidation. , 2012, , .		17
74	Reduction of MOS Interface Defects in TiN/Y <sub>2</sub> O <sub>3</sub> /Si <sub>3</sub> N <sub>4</sub> /Ge <sub>2</sub> S <sub>3</sub> Structures by Trimethylaluminum Treatment. IEEE Transactions on Electron Devices, 2020, 67, 4067-4072.	1.6	17
75	High performance sub-20-nm-channel-length extremely-thin body InAs-on-insulator tri-gate MOSFETs with high short channel effect immunity and V <sub>th</sub> tunability. , 2013, , .		16
76	Biaxially strained extremely-thin body In <sub>0.53</sub> Ga <sub>0.47</sub> As-on-insulator metal-oxide-semiconductor field-effect transistors on Si substrate and physical understanding on their electron mobility. Journal of Applied Physics, 2013, 114, 164512.	1.1	16
77	Surface Leakage Reduction in MSM InGaAs Photodetector on III-V CMOS Photonics Platform. IEEE Photonics Technology Letters, 2015, 27, 1569-1572.	1.3	16
78	Properties of slow traps of ALD Al <sub>2</sub> O <sub>3</sub> /GeO <sub>x</sub> /Ge nMOSFETs with plasma post oxidation. Applied Physics Letters, 2016, 109, .	1.5	16
79	InGaAs MSM photodetector monolithically integrated with InP photonic-wire waveguide on III-V CMOS photonics platform. IEICE Electronics Express, 2014, 11, 20140609-20140609.	0.3	15
80	Numerical Analysis of Carrier-Depletion Strained SiGe Optical Modulators With Vertical p-n Junction. IEEE Journal of Quantum Electronics, 2015, 51, 1-7.	1.0	15
81	Characterization of ultrathin-body Germanium-on-insulator (GeOI) structures and MOSFETs on flipped Smart-Cut <sub>GeOI</sub> substrates. Solid-State Electronics, 2016, 115, 120-125.	0.8	15
82	Improvement of SiGe MOS interface properties with a wide range of Ge contents by using TiN/Y <sub>2</sub> O <sub>3</sub> gate stacks with TMA passivation. , 2019, , .		15
83	Impact of SiGe layer thickness in starting substrates on strained Ge-on-insulator pMOSFETs fabricated by Ge condensation method. Applied Physics Letters, 2019, 114, .	1.5	15
84	p-Channel TFET Operation of Bilayer Structures With Type-II Heterotunneling Junction of Oxide- and Group-IV Semiconductors. IEEE Transactions on Electron Devices, 2020, 67, 1880-1886.	1.6	15
85	Tunneling MOSFET technologies using III-V/Ge materials. , 2016, , .		14
86	First demonstration of SiGe-based carrier-injection Mach-Zehnder modulator with enhanced plasma dispersion effect. Optics Express, 2016, 24, 1979.	1.7	14
87	Bilayer tunneling field effect transistor with oxide-semiconductor and group-IV semiconductor hetero junction: Simulation analysis of electrical characteristics. AIP Advances, 2019, 9, 055001.	0.6	14
88	Comprehensive Understanding of Coulomb Scattering Mobility in Biaxially Strained-Si pMOSFETs. IEEE Transactions on Electron Devices, 2009, 56, 1152-1156.	1.6	13
89	III-V/Ge CMOS technologies on Si platform. , 2010, , .		13
90	Effects of HfO <sub>2</sub> /Al <sub>2</sub> O <sub>3</sub> gate stacks on electrical performance of planar In <sub>x</sub> Ga <sub>1-x</sub> As tunneling field-effect transistors. Applied Physics Express, 2017, 10, 084201.	1.1	13

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91	InP-based photonic integrated circuit platform on SiC wafer. Optics Express, 2017, 25, 29993.	1.7	13
92	Impact of Atomic Layer Deposition High k Films on Slow Trap Density in Ge MOS Interfaces With GeO <sub>x</sub> Interfacial Layers Formed by Plasma Pre-Oxidation. IEEE Journal of the Electron Devices Society, 2018, 6, 950-955.	1.2	13
93	InGaAsP Mach-Zehnder interferometer optical modulator monolithically integrated with InGaAs driver MOSFET on a III-V CMOS photonics platform. Optics Express, 2018, 26, 4842.	1.7	13
94	Operation of (111) Ge-on-Insulator n-Channel MOSFET Fabricated by Smart-Cut Technology. IEEE Electron Device Letters, 2020, 41, 985-988.	2.2	13
95	Optical Phase Modulators Based on Reverse-Biased III-V/Si Hybrid Metal-Oxide-Semiconductor Capacitors. IEEE Photonics Technology Letters, 2020, 32, 345-348.	1.3	13
96	In <sub>0.53</sub> Ga <sub>0.47</sub> As metal-oxide-semiconductor field-effect transistors with self-aligned metal source/drain using Co-InGaAs alloys. Applied Physics Letters, 2012, 100, .	1.5	12
97	Analysis of interface trap density of plasma post-nitrided Al <sub>2</sub> O <sub>3</sub> /SiGe MOS interface with high Ge content using high-temperature conductance method. Journal of Applied Physics, 2016, 120, 125707.	1.1	12
98	Design and properties of planar-type tunnel FETs using In <sub>0.53</sub> Ga <sub>0.47</sub> As/In <sub>x</sub> Ga <sub>1-x</sub> As/In <sub>0.53</sub> Ga <sub>0.47</sub> As quantum well. Journal of Applied Physics, 2017, 122, .	1.1	12
99	Influence of impurity concentration in Ge sources on electrical properties of Ge/Si hetero-junction tunneling field-effect transistors. Applied Physics Letters, 2018, 113, 062103.	1.5	12
100	Tunable Grating Coupler by Thermal Actuation and Thermo-Optic Effect. IEEE Photonics Technology Letters, 2018, 30, 1503-1506.	1.3	12
101	ZnO/Si and ZnO/Ge bilayer tunneling field effect transistors: Experimental characterization of electrical properties. Journal of Applied Physics, 2019, 125, .	1.1	12
102	Si racetrack optical modulator based on the III-V/Si hybrid MOS capacitor. Optics Express, 2021, 29, 6824.	1.7	12
103	Gas Phase Doping of Arsenic into (100), (110), and (111) Germanium Substrates Using a Metal-Organic Source. Japanese Journal of Applied Physics, 2011, 50, 010105.	0.8	11
104	Impact of Postdeposition Annealing Ambient on the Mobility of Ge nMOSFETs With 1-nm EOT Al <sub>2</sub> O <sub>3</sub> /GeO <sub>x</sub> /Ge Gate-Stacks. IEEE Transactions on Electron Devices, 2016, 63, 558-564.	1.6	11
105	Low-dark-current waveguide InGaAs metal-semiconductor-metal photodetector monolithically integrated with InP grating coupler on III-V CMOS photonics platform. Japanese Journal of Applied Physics, 2016, 55, 04EH01.	0.8	11
106	Design and characterization of Ge passive waveguide components on Ge-on-insulator wafer for mid-infrared photonics. Japanese Journal of Applied Physics, 2018, 57, 042202.	0.8	11
107	TiN/Al <sub>2</sub> O <sub>3</sub> /ZnO gate stack engineering for top-gate thin film transistors by combination of post oxidation and annealing. Applied Physics Letters, 2018, 112, .	1.5	11
108	Computational design of efficient grating couplers using artificial intelligence. Japanese Journal of Applied Physics, 2020, 59, SGGE09.	0.8	11

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109	Numerical analyses of optical loss and modulation bandwidth of an InP organic hybrid optical modulator. <i>Optics Express</i> , 2020, 28, 29730.	1.7	11
110	A floating gate negative capacitance MoS <sub>2</sub> phototransistor with high photosensitivity. <i>Nanoscale</i> , 2022, 14, 2013-2022.	2.8	11
111	Verification of influence of tail states and interface states on sub-threshold swing of Si n-channel MOSFETs over a temperature range of 4–300 K. <i>Japanese Journal of Applied Physics</i> , 2022, 61, SC1032.	0.8	11
112	Comprehensive understanding of surface roughness and Coulomb scattering mobility in biaxially-strained Si MOSFETs. , 2008, , .		10
113	Experimental Study on Wavelength Tunability of All-Optical Flip-Flop Based on Multimode-Interference Bistable Laser Diode. <i>IEEE Photonics Journal</i> , 2009, 1, 40-47.	1.0	10
114	Sub-60 nm deeply-scaled channel length extremely-thin body In <sub>x</sub> Ga <sub>1-x</sub> As-on-insulator MOSFETs on Si with Ni-InGaAs metal S/D and MOS interface buffer engineering. , 2012, , .		10
115	Proposal and demonstration of oxide-semiconductor/(Si, SiGe, Ge) bilayer tunneling field effect transistor with type-II energy band alignment. , 2017, , .		10
116	Ge p-channel tunneling FETs with steep phosphorus profile source junctions. <i>Japanese Journal of Applied Physics</i> , 2018, 57, 04FD10.	0.8	10
117	Metal-oxide-semiconductor interface properties of TiN/Y <sub>2</sub> O <sub>3</sub> /Si <sub>0.62</sub> Ge <sub>0.38</sub> gate stacks with high temperature post-metallization annealing. <i>Journal of Applied Physics</i> , 2020, 127, , .	1.1	10
118	Antiferroelectric properties of ZrO <sub>2</sub> ultra-thin films prepared by atomic layer deposition. <i>Applied Physics Letters</i> , 2021, 118, , .	1.5	10
119	High-efficiency Ge thermo-optic phase shifter on Ge-on-insulator platform. <i>Optics Express</i> , 2019, 27, 6451.	1.7	10
120	Ultrasmall Arrayed Waveguide Grating Multiplexer using InP-based Photonic Wire Waveguide on Si wafer for III-V CMOS photonics. , 2010, , .		9
121	Hole mobility enhancement in extremely-thin-body strained GOI and SGOI pMOSFETs by improved Ge condensation method. , 2018, , .		9
122	Fabrication of thin body InAs-on-insulator structures by Smart Cut method with H <sup>+</sup> implantation at room temperature. <i>Japanese Journal of Applied Physics</i> , 2019, 58, SBBA03.	0.8	9
123	Mid-infrared tunable Vernier filter on a germanium-on-insulator photonic platform. <i>Optics Letters</i> , 2019, 44, 2779.	1.7	9
124	Low-loss Ge waveguide at the 2- $\mu$ m band on an n-type Ge-on-insulator wafer. <i>Optical Materials Express</i> , 2021, 11, 4097.	1.6	9
125	Evaluation of Electron and Hole Mobility at Identical Metal-Oxide-Semiconductor Interfaces by using Metal Source/Drain Ge-on-Insulator Metal-Oxide-Semiconductor Field-Effect Transistors. <i>Japanese Journal of Applied Physics</i> , 2009, 48, 04C050.	0.8	8
126	High mobility CMOS technologies using III-V/Ge channels on Si platform. , 2012, , .		8



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127	High mobility strained-Ge pMOSFETs with 0.7-nm ultrathin EOT using plasma post oxidation HfO <sub>2</sub> /Al <sub>2</sub> O <sub>3</sub> /GeO <sub>x</sub> gate stacks and strain modulation. , 2013, , .		8
128	Low temperature Al <sub>2</sub> O <sub>3</sub> surface passivation for carrier-injection SiGe optical modulator. Optics Express, 2014, 22, 7458.	1.7	8
129	High performance 4.5-nm-thick compressively-strained Ge-on-insulator pMOSFETs fabricated by Ge condensation with optimized temperature control. , 2017, , .		8
130	Low-loss graphene-based optical phase modulator operating at mid-infrared wavelength. Japanese Journal of Applied Physics, 2018, 57, 04FH06.	0.8	8
131	Investigation of Electrical Characteristics of Vertical Junction Si n-Type Tunnel FET. IEEE Transactions on Electron Devices, 2018, 65, 5511-5517.	1.6	8
132	Impact of metal gate electrodes on electrical properties of Y <sub>2</sub> O <sub>3</sub> /Si <sub>0.78</sub> Ge <sub>0.22</sub> gate stacks. Microelectronic Engineering, 2019, 214, 87-92.	1.1	8
133	Polarization-Insensitive All-Optical Flip-Flop Using Tensile-Strained Multiple Quantum Wells. IEEE Photonics Technology Letters, 2008, 20, 1851-1853.	1.3	7
134	Physical Origin of Drive Current Enhancement in Ultrathin Ge-on-Insulator n-Channel Metalâ€“Oxideâ€“Semiconductor Field-Effect Transistors under Full Ballistic Transport. Japanese Journal of Applied Physics, 2011, 50, 010110.	0.8	7
135	Self-aligned metal S/D GaSb p-MOSFETs using Ni-GaSb alloys. , 2012, , .		7
136	InAs/GaSb-on-insulator single channel complementary metal-oxide-semiconductor transistors on Si structure. Applied Physics Letters, 2016, 109, 213505.	1.5	7
137	Impact of surface orientation on (100), (111)A, and (111)B InGaAs surfaces with In content of 0.53 and 0.70 and on their Al <sub>2</sub> O <sub>3</sub> /InGaAs metal-oxide-semiconductor interface properties. Applied Physics Letters, 2016, 109, 182111.	1.5	7
138	Effects of additional oxidation after Ge condensation on electrical properties of germanium-on-insulator p-channel MOSFETs. Solid-State Electronics, 2016, 117, 77-87.	0.8	7
139	Reduction of slow trap density of Al <sub>2</sub> O <sub>3</sub> /GeO <sub>x</sub> /n-Ge MOS interfaces by inserting ultrathin Y <sub>2</sub> O <sub>3</sub> interfacial layers. Microelectronic Engineering, 2017, 178, 132-136.	1.1	7
140	Pretreatment Effects on High-k/In <sub>x</sub> Ga <sub>1-x</sub> As MOS Interface Properties and Their Physical Model. IEEE Journal of the Electron Devices Society, 2018, 6, 487-493.	1.2	7
141	Fabrication and Electrical Characteristics of ZnSnO/Si Bilayer Tunneling Filed-Effect Transistors. IEEE Journal of the Electron Devices Society, 2019, 7, 1201-1208.	1.2	7
142	Effects of hydrogen ion implantation dose on physical and electrical properties of Ge-on-insulator layers fabricated by the smart-cut process. AIP Advances, 2020, 10, .	0.6	7
143	Proposal and Experimental Demonstration of Ultrathin-Body (111) InAs-On-Insulator nMOSFETs With L Valley Conduction. IEEE Transactions on Electron Devices, 2021, 68, 2003-2009.	1.6	7
144	Taperless Si hybrid optical phase shifter based on a metal-oxide-semiconductor capacitor using an ultrathin InP membrane. Optics Express, 2020, 28, 35663.	1.7	7

#	ARTICLE	IF	CITATIONS
145	Source engineering for bilayer tunnel field-effect transistor with hetero tunnel junction: thickness and impurity concentration. <i>Applied Physics Express</i> , 2020, 13, 074004.	1.1	7
146	Strain-Modulated L-Valley Ballistic-Transport in (111) GaAs Ultrathin-Body nMOSFETs. <i>IEEE Transactions on Electron Devices</i> , 2014, 61, 1335-1340.	1.6	6
147	Modulation of sub-threshold properties of InGaAs MOSFETs by La <sub>2</sub> O <sub>3</sub> gate dielectrics. <i>AIP Advances</i> , 2017, 7, 095215.	0.6	6
148	InGaSb-on-insulator p-channel metal-oxide-semiconductor field-effect transistors on Si fabricated by direct wafer bonding. <i>Journal of Applied Physics</i> , 2019, 125, .	1.1	6
149	Strain and surface orientation engineering in extremely-thin body Ge and SiGe-on-insulator MOSFETs fabricated by Ge condensation. , 2019, , .		6
150	Re-examination of effects of sulfur treatment on Al <sub>2</sub> O <sub>3</sub> /InGaAs metal-oxide-semiconductor interface properties. <i>Journal of Applied Physics</i> , 2019, 126, .	1.1	6
151	Efficient Mid-Infrared Germanium Variable Optical Attenuator Fabricated by Spin-on-Glass Doping. <i>Journal of Lightwave Technology</i> , 2020, 38, 4808-4816.	2.7	6
152	Effective Mobility Enhancement Through Asymmetric Strain Channels on Extremely Thin Body (100) GOI pMOSFETs. <i>IEEE Transactions on Electron Devices</i> , 2022, 69, 25-30.	1.6	6
153	Influence of interface traps inside the conduction band on the capacitance-voltage characteristics of InGaAs metal-oxide-semiconductor capacitors. <i>Applied Physics Express</i> , 2016, 9, 111202.	1.1	5
154	InGaAsP variable optical attenuator with lateral P-I-N junction formed by Ni-InGaAsP and Zn diffusion on III-V on insulator wafer. <i>MRS Advances</i> , 2016, 1, 3295-3300.	0.5	5
155	Characterization and understanding of slow traps in GeOx-based n-Ge MOS interfaces. , 2018, , .		5
156	Thermal properties of III-V on a SiC platform for photonic integrated circuits. <i>Japanese Journal of Applied Physics</i> , 2019, 58, SBBE06.	0.8	5
157	Drive current enhancement of Si MOSFETs by using anti-ferroelectric gate insulators. <i>Japanese Journal of Applied Physics</i> , 2019, 58, SBBA15.	0.8	5
158	Impacts of Equivalent Oxide Thickness Scaling of TiN/ $\gamma$ -Al <sub>2</sub> O <sub>3</sub> Gate Stacks With Trimethylaluminum Treatment on SiGe MOS Interface Properties. <i>IEEE Electron Device Letters</i> , 2021, 42, 966-969.	2.2	5
159	Si microring resonator optical switch based on optical phase shifter with ultrathin-InP/Si hybrid metal-oxide-semiconductor capacitor. <i>Optics Express</i> , 2021, 29, 18502.	1.7	5
160	Accurate evaluation of specific contact resistivity between InAs/Ni-InAs alloy using a multi-sidewall transmission line method. <i>Japanese Journal of Applied Physics</i> , 2020, 59, SGG A08.	0.8	5
161	Physical Origin of Drive Current Enhancement in Ultrathin Ge-on-Insulator n-Channel Metal-Oxide-Semiconductor Field-Effect Transistors under Full Ballistic Transport. <i>Japanese Journal of Applied Physics</i> , 2011, 50, 010110.	0.8	5
162	Optimum Channel Design of Extremely-Thin-Body nMOSFETs Utilizing Anisotropic Valley-Robust to Surface Roughness Scattering. <i>IEEE Transactions on Electron Devices</i> , 2022, 69, 2115-2121.	1.6	5

#	ARTICLE	IF	CITATIONS
163	Physical understanding of electron mobility in asymmetrically strained InGaAs-on-insulator metal-oxide-semiconductor field-effect transistors fabricated by lateral strain relaxation. Applied Physics Letters, 2014, 104, 113509.	1.5	4
164	III-V/Ge MOSFETs and tunneling FETs on Si platform for low power logic applications. , 2015, , .		4
165	Reduction of Slow Trap Density in Al <sub>2</sub> O <sub>3</sub> /GeO <sub>2</sub> /n-Ge MOS Interfaces by PPN-PPO Process. IEEE Transactions on Electron Devices, 2019, 66, 5060-5064.	1.6	4
166	Tunable Germanium-on-Insulator Band-Stop Optical Filter Using Thermo-Optic Effect. IEEE Photonics Journal, 2020, 12, 1-7.	1.0	4
167	Influence of layer transfer and thermal annealing on the properties of InAs-On-Insulator films. Journal of Applied Physics, 2020, 128, .	1.1	4
168	Improvement in Electrical Characteristics of ZnSnO/Si Bilayer TFET by W/Al <sub>2</sub> O <sub>3</sub> Gate Stack. IEEE Journal of the Electron Devices Society, 2020, 8, 341-345.	1.2	4
169	Modulation bandwidth improvement of III-V/Si hybrid MOS optical modulator by reducing parasitic capacitance. Optics Express, 2022, 30, 22848.	1.7	4
170	High mobility III-V-on-insulator MOSFETs on Si with ALD-Al <sub>2</sub> O <sub>3</sub> BOX layers. , 2010, , .		3
171	Suppression of Interface State Generation in Si MOSFETs with Biaxial Tensile Strain. IEEE Electron Device Letters, 2011, 32, 1005-1007.	2.2	3
172	Evaluation of chemical potential for graphene optical modulators based on the semiconductor-metal transition. , 2013, , .		3
173	Electrical Properties of Ultra-Thin Body (111) Ge-On-Insulator n-Channel MOSFETs Fabricated by Smart-Cut Process. IEEE Journal of the Electron Devices Society, 2021, 9, 612-617.	1.2	3
174	Subband Engineering by Combination of Channel Thickness Scaling and (111) Surface Orientation in InAs-On-Insulator nMOSFETs. , 2020, , .		3
175	Optimum Design of Channel Material and Surface Orientation for Extremely-Thin-Body nMOSFETs under New Modeling of Surface Roughness Scattering. , 2021, , .		3
176	Monolithic integration of electro-absorption modulators and photodetectors on III-V CMOS photonics platform by quantum well intermixing. Optics Express, 2022, 30, 23318.	1.7	3
177	Advanced non-Si channel CMOS technologies on Si platform. , 2010, , .		2
178	High mobility material channel CMOS technologies based on heterogeneous integration. , 2011, , .		2
179	Impact of La <sub>2</sub> O <sub>3</sub> /InGaAs MOS interface on InGaAs MOSFET performance and its application to InGaAs negative capacitance FET. , 2016, , .		2
180	III-V-based low power CMOS devices on Si platform. , 2017, , .		2

#	ARTICLE	IF	CITATIONS
181	III-V/Ge MOSFETs and TFETs for ultra-low power logic LSIs. , 2017, , .		2
182	Advanced CMOS technologies for ultra-low power logic and AI applications. , 2021, , .		2
183	Re-examination of effects of ALD high-k materials on defect reduction in SiGe metal-oxide-semiconductor interfaces. AIP Advances, 2021, 11, .	0.6	2
184	Evaluation of interface traps inside the conduction band of InAs-on-insulator nMOSFET by self-consistent Hall-QSCV method. Applied Physics Letters, 2021, 119, .	1.5	2
185	Taper-less III-V/Si Hybrid MOS Optical Phase Shifter using Ultrathin InP Membrane. , 2020, , .		2
186	Monolithic Germanium PIN Waveguide Photodetector Operating at 2 ¼m Wavelengths. , 2020, , .		2
187	Ge photodetector integrated with Ge-on-insulator MOSFET by using oxidation condensation technique. , 2008, , .		1
188	Design and fabrication of Mach-Zehnder interferometer bistable laser diode all-optical flip-flop. , 2009, , .		1
189	Fabrication of Ge-rich SiGe-On-insulator waveguide for optical modulator. , 2011, , .		1
190	Improvement of SiGe MOS interfaces by plasma post-nitridation for SiGe high-k MOS optical modulators. , 2012, , .		1
191	MOS interface engineering for high-mobility Ge CMOS. , 2013, , .		1
192	Impact of Al<sub>2</sub>O<sub>3</sub> ALD temperature on Al<sub>2</sub>O<sub>3</sub>/GaSb metal-oxide-semiconductor interface properties. , 2013, , .		1
193	Multi-bandgap III-V on insulator wafer fabricated by quantum well intermixing for III-V CMOS photonics platform. , 2014, , .		1
194	Advanced nano CMOS using Ge/III-V semiconductors for low power logic LSIs. , 2015, , .		1
195	Near-infrared and mid-infrared integrated photonics based on Ge-on-insulator platform. , 2017, , .		1
196	Material design of oxide-semiconductor/group-IV-semiconductor bilayer tunneling field effect transistors. , 2019, , .		1
197	Improvement of material quality of (100) and (111) Ge-on-insulator substrates fabricated by smart-cut technology. , 2019, , .		1
198	Impact of Switching Voltage on Complementary Steep-Slope Tunnel Field Effect Transistor Circuits. IEEE Transactions on Electron Devices, 2020, 67, 3876-3882.	1.6	1

#	ARTICLE	IF	CITATIONS
199	Corrections to "Operation of (111) Ge-on-Insulator n-channel MOSFET Fabricated by Smart-Cut Technology" [Jul 20 985-988]. IEEE Electron Device Letters, 2020, 41, 1266-1266.	2.2	1
200	Requirements of epitaxially grown InGaAs channel layers for tunnel field-effect transistors. Journal of Applied Physics, 2020, 127, 225702.	1.1	1
201	Monolithic Integration of III-V/Si Hybrid MOS Optical Phase Shifter and InGaAs Membrane Photodetector. , 2021, , .		1
202	Ge Ring Modulator Based on Carrier-injection Phaser Shifter Operating at Two Micrometer Band. , 2021, , .		1
203	Numerical analysis of optical phase modulator operating at 2 $\mu$ m wavelength using graphene/III-V hybrid metal-oxide-semiconductor capacitor. Japanese Journal of Applied Physics, 2022, 61, SC1031.	0.8	1
204	MMI bistable laser diode optical flip-flops for all-optical packet switching networks. Conference Proceedings - Lasers and Electro-Optics Society Annual Meeting-LEOS, 2007, , .	0.0	0
205	Dynamic operation of polarization insensitive all-optical flip-flop based on multimode-interference bistable laser diode. , 2008, , .		0
206	Wavelength tunability of all-optical flip-flop using distributed Bragg reflectors. , 2008, , .		0
207	Source/drain formation by using epitaxial regrowth of N+InP for III-V nMOSFETs. , 2009, , .		0
208	Metal source/drain inversion-mode InP MOSFETs. , 2009, , .		0
209	Advanced CMOS technologies using III-V/Ge channels. , 2011, , .		0
210	Highly-strained SGOI p-channel MOSFETs fabricated by applying Ge condensation technique to strained-SOI substrates. , 2011, , .		0
211	III-V CMOS technologies on Si platform. Materials Research Society Symposia Proceedings, 2011, 1336, 50401.	0.1	0
212	Numerical analysis of strained SiGe-based carrier-injection optical modulators. , 2012, , .		0
213	Low temperature surface passivation for carrier injection type SiGe optical modulator. , 2013, , .		0
214	Simulation of carrier-depletion strained SiGe optical modulators with vertical p-n junction. , 2014, , .		0
215	Waveguide InGaAs photodetector with schottky barrier enhancement layer on III-V CMOS photonics platform. , 2014, , .		0
216	Surface orientation dependence of electro-optic effects in InGaAsP for lateral PIN-junction InGaAsP photonic-wire modulators. , 2014, , .		0

#	ARTICLE	IF	CITATIONS
217	Effectiveness of Surface Potential Fluctuation for Representing Inversion-Layer Mobility Limited by Coulomb Scattering in MOFETs. IEEE Electron Device Letters, 2015, 36, 1183-1185.	2.2	0
218	III-V/Ge-based tunneling MOSFET. , 2017, , .		0
219	Effects of ge-source impurity concentration on electrical characteristics of Ge/Si hetero-junction tunneling FETs. , 2017, , .		0
220	Ultra-low power MOSFET and tunneling FET technologies using III-V and Ge. , 2017, , .		0
221	Ge-on-Insulator Platform for Mid-Infrared Integrated Photonics. , 2018, , .		0
222	Si Hybrid MOS Optical Phase Shifter for Switching and Computing. , 2018, , .		0
223	Semiconductor-insulator-semiconductor (SIS) structures for high-performance optical modulation. , 2018, , .		0
224	III-V/Si Hybrid MOS Optical Phase Modulator for Si Photonic Integrated Circuits. , 2018, , .		0
225	Low-Power Ge Thermo-Optic Phase Shifter on Ge-on-Insulator Platform. , 2018, , .		0
226	Relationship between interface state generation and substrate hole current in InGaAs metal-oxide-semiconductor (MOS) interfaces. Journal of Applied Physics, 2018, 123, 234502.	1.1	0
227	Advanced MOS Device Technology for Low Power Logic LSI. , 2019, , .		0
228	Coupled-Resonator-Induced-Transparency on Germanium-on-Insulator Mid-Infrared Platform. , 2019, , .		0
229	Diffusion properties of n-type dopants diffused from spin on glass into Ge. Journal of Applied Physics, 2020, 128, 015707.	1.1	0
230	Silicon Photonics Using Heterogeneous Integration for Society 5.0. Vacuum and Surface Science, 2021, 64, 68-73.	0.0	0
231	Invited Paper: Bilayer Tunneling Field Effect Transistors using Oxide Semiconductor/Group IV Semiconductor Heterostructures. Digest of Technical Papers SID International Symposium, 2021, 52, 73-76.	0.1	0
232	Germanium Mid-infrared Integrated Photonics on GeOI Platform. , 2021, , .		0
233	Thermo-optic Mach-Zehnder Interferometer Integrated with Si PN Diode Switch for Bipolar Optical Phase Control. , 2021, , .		0
234	Group IV/oxide semiconductor bi-layer tunneling FET. , 2019, , .		0

#	ARTICLE	IF	CITATIONS
235	Introduction of high tensile strain into Ge-on-Insulator structures by oxidation and annealing at high temperature. Japanese Journal of Applied Physics, 2022, 61, SC1027.	0.8	0
236	Characterization of interface properties of Al <sub>2</sub> O <sub>3</sub> /n-GaSb and Al <sub>2</sub> O <sub>3</sub> /InAs/n-GaSb metal-oxide-semiconductor structures. Japanese Journal of Applied Physics, 0, , .	0.8	0