

Noriyuki Taoka

List of Publications by Year in descending order

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#	ARTICLE	IF	CITATIONS
1	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
2	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
3	Growth and applications of GeSn-related group-IV semiconductor materials. Science and Technology of Advanced Materials, 2015, 16, 043502.	2.8	144
4	Modulation of NiGe \cdot Ge Schottky barrier height by sulfur segregation during Ni germanidation. Applied Physics Letters, 2006, 88, 152115.	1.5	85
5	High hole mobility tin-doped polycrystalline germanium layers formed on insulating substrates by low-temperature solid-phase crystallization. Applied Physics Letters, 2015, 107, .	1.5	64
6	Sub-10-nm Extremely Thin Body InGaAs-on-Insulator MOSFETs on Si Wafers With Ultrathin Al_2O_3 Buried Oxide Layers. IEEE Electron Device Letters, 2011, 32, 1218-1220.	2.2	60
7	Pure-edge dislocation network for strain-relaxed SiGe \cdot Si(001) systems. Applied Physics Letters, 2005, 86, 221916.	1.5	58
8	Self-Aligned Metal Source/Drain In \cdot Ga \cdot As n-Metal \cdot Oxide \cdot Semiconductor Field-Effect Transistors Using Ni \cdot InGaAs Alloy. Applied Physics Express, 2011, 4, 024201.	1.1	53
9	Effects of Si passivation on Ge metal-insulator-semiconductor interface properties and inversion-layer hole mobility. Applied Physics Letters, 2008, 92, .	1.5	45
10	1-nm-thick EOT high mobility Ge n- and p-MOSFETs with ultrathin GeO_x/Ge MOS interfaces fabricated by plasma post oxidation. , 2011, , .		41
11	Reduction in interface state density of $\text{Al}_2\text{O}_3/\text{InGaAs}$ metal-oxide-semiconductor interfaces by InGaAs surface nitridation. Journal of Applied Physics, 2012, 112, 073702.	1.1	41
12	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
13	Impact of atomic layer deposition temperature on $\text{HfO}_2/\text{InGaAs}$ metal-oxide-semiconductor interface properties. Journal of Applied Physics, 2012, 112, .	1.1	38
14	Large grain growth of Ge-rich $\text{Ge}_{1-x}\text{Sn}_x$ ($x \approx 0.02$) on insulating surfaces using pulsed laser annealing in flowing water. Applied Physics Letters, 2014, 104, 061901.	1.5	37
15	Near-infrared light absorption by polycrystalline SiSn alloys grown on insulating layers. Applied Physics Letters, 2015, 106, .	1.5	33
16	Suppression of ALD-Induced Degradation of Ge MOS Interface Properties by Low Power Plasma Nitridation of GeO_2 . Journal of the Electrochemical Society, 2011, 158, G178.	1.3	30
17	High Performance Extremely Thin Body InGaAs-on-Insulator Metal \cdot Oxide \cdot Semiconductor Field-Effect Transistors on Si Substrates with Ni \cdot InGaAs Metal Source/Drain. Applied Physics Express, 2011, 4, 114201.	1.1	28
18	Experimental Study on Electron Mobility in In \cdot Ga \cdot 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

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19	Liquid-Sn-driven lateral growth of poly-GeSn on insulator assisted by surface oxide layer. Applied Physics Letters, 2013, 103, .	1.5	28
20	Local strain in SiGe/Si heterostructures analyzed by X-ray microdiffraction. Thin Solid Films, 2006, 508, 128-131.	0.8	27
21	Impact of Fermi level pinning inside conduction band on electron mobility in InGaAs metal-oxide-semiconductor field-effect transistors. Applied Physics Letters, 2013, 103, .	1.5	27
22	III-V/Ge High Mobility Channel Integration of InGaAs n-Channel and Ge p-Channel Metal-Oxide-Semiconductor Field-Effect Transistors with Self-Aligned Ni-Based Metal Source/Drain Using Direct Wafer Bonding. Applied Physics Express, 2012, 5, 076501.	1.1	26
23	Electron Mobility Enhancement of Extremely Thin Body In _{0.7} Ga _{0.3} As-on-Insulator Metal-Oxide-Semiconductor Field-Effect Transistors on Si Substrates by Metal-Oxide-Semiconductor Interface Buffer Layers. Applied Physics Express, 2012, 5, 014201.	1.1	26
24	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
25	Impact of Fermi Level Pinning Due to Interface Traps Inside the Conduction Band on the Inversion-Layer Mobility in In _x Ga _{1-x} As Metal-Oxide-Semiconductor Field Effect Transistors. IEEE Transactions on Device and Materials Reliability, 2013, 13, 456-462.	1.5	25
26	Planar-type In _{0.53} Ga _{0.47} As channel band-to-band tunneling metal-oxide-semiconductor field-effect transistors. Journal of Applied Physics, 2011, 110, .	1.1	24
27	Strained In _{0.53} Ga _{0.47} As metal-oxide-semiconductor field-effect transistors with epitaxial based biaxial strain. Applied Physics Letters, 2012, 100, 193510.	1.5	23
28	Development of epitaxial growth technology for Ge _{1-x} Sn alloy and study of its properties for Ge nanoelectronics. Solid-State Electronics, 2013, 83, 82-86.	0.8	23
29	Epitaxial formation and electrical properties of Ni germanide/Ge(110) contacts. Thin Solid Films, 2014, 557, 84-89.	0.8	22
30	Stabilized formation of tetragonal ZrO ₂ thin film with high permittivity. Thin Solid Films, 2014, 557, 192-196.	0.8	22
31	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
32	Effects of ambient conditions in thermal treatment for Ge(001) surfaces on Ge-MIS interface properties. Semiconductor Science and Technology, 2007, 22, S114-S117.	1.0	20
33	Physical origins of mobility enhancement of Ge p-channel metal-insulator-semiconductor field effect transistors with Si passivation layers. Journal of Applied Physics, 2010, 108, 104511.	1.1	20
34	Non-uniform depth distributions of Sn concentration induced by Sn migration and desorption during GeSnSi layer formation. Applied Physics Letters, 2015, 106, .	1.5	20
35	Formation of high-quality oxide/Ge _{1-x} Sn _x interface with high surface Sn content by controlling Sn migration. Applied Physics Letters, 2014, 105, 122103.	1.5	19
36	Nature of interface traps in Ge metal-insulator-semiconductor structures with GeO ₂ interfacial layers. Journal of Applied Physics, 2011, 109, .	1.1	18

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37	Initial Processes of Atomic Layer Deposition of Al ₂ O ₃ on InGaAs: Interface Formation Mechanisms and Impact on Metal-Insulator-Semiconductor Device Performance. <i>Materials</i> , 2012, 5, 404-414.	1.3	18
38	Growth and characterization of strain-relaxed SiGe buffer layers on Si(001) substrates with pure-edge misfit dislocations. <i>Materials Science in Semiconductor Processing</i> , 2005, 8, 131-135.	1.9	17
39	Strain-relaxation mechanisms of SiGe layers formed by two-step growth on Si(0 0 1) substrates. <i>Applied Surface Science</i> , 2004, 224, 104-107.	3.1	16
40	AC response analysis of C-V curves and quantitative analysis of conductance curves in Al ₂ O ₃ /InP interfaces. <i>Microelectronic Engineering</i> , 2011, 88, 1087-1090.	1.1	16
41	Electrical and optical properties improvement of GeSn layers formed at high temperature under well-controlled Sn migration. <i>Materials Science in Semiconductor Processing</i> , 2017, 57, 48-53.	1.9	16
42	Impacts of oxidants in atomic layer deposition method on Al ₂ O ₃ /GaN interface properties. <i>Japanese Journal of Applied Physics</i> , 2018, 57, 01AD04.	0.8	16
43	Impacts of AlGeO formation by post thermal oxidation of Al ₂ O ₃ /Ge structure on interfacial properties. <i>Thin Solid Films</i> , 2014, 557, 282-287.	0.8	15
44	Understanding of frequency dispersion in C-V curves of metal-oxide-semiconductor capacitor with wide-bandgap semiconductor. <i>Microelectronic Engineering</i> , 2017, 178, 182-185.	1.1	15
45	Importance of minority carrier response in accurate characterization of Ge metal-insulator-semiconductor interface traps. <i>Journal of Applied Physics</i> , 2009, 106, .	1.1	14
46	Accurate evaluation of Ge metal-insulator-semiconductor interface properties. <i>Journal of Applied Physics</i> , 2011, 110, .	1.1	14
47	(Invited) MOS Interface Control Technologies for III-V/Ge Channel MOSFETs. <i>ECS Transactions</i> , 2011, 41, 3-20.	0.3	14
48	Influence of Ge substrate orientation on crystalline structures of Ge _{1-x} Sn epitaxial layers. <i>Thin Solid Films</i> , 2014, 557, 159-163.	0.8	14
49	Epitaxial growth and crystalline properties of Ge _{1-x} Si _x Sn on Ge(0 0 1) substrates. <i>Solid-State Electronics</i> , 2015, 110, 49-53.	0.8	14
50	High thermal stability of abrupt SiO ₂ /GaN interface with low interface state density. <i>Japanese Journal of Applied Physics</i> , 2018, 57, 04FG11.	0.8	14
51	Dislocation structures and strain-relaxation in SiGe buffer layers on Si(0 0 1) substrates with an ultra-thin Ge interlayer. <i>Applied Surface Science</i> , 2004, 224, 108-112.	3.1	13
52	In _{0.53} Ga _{0.47} As metal-oxide-semiconductor field-effect transistors with self-aligned metal source/drain using Co-InGaAs alloys. <i>Applied Physics Letters</i> , 2012, 100, .	1.5	12
53	Understanding of interface structures and reaction mechanisms induced by Ge or GeO diffusion in Al ₂ O ₃ /Ge structure. <i>Applied Physics Letters</i> , 2013, 103, .	1.5	12
54	Reduction of Schottky barrier height for n-type Ge contact by using Sn electrode. <i>Japanese Journal of Applied Physics</i> , 2014, 53, 04EA06.	0.8	12

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55	Ion-Implanted Impurity Profiles in Ge Substrates and Amorphous Layer Thickness Formed by Ion Implantation. <i>IEEE Transactions on Electron Devices</i> , 2009, 56, 627-633.	1.6	11
56	Epitaxial growth and anisotropic strain relaxation of Ge _{1-x} Sn _x layers on Ge(110) substrates. <i>Solid-State Electronics</i> , 2013, 83, 71-75.	0.8	11
57	Effect of Sn atoms on incorporation of vacancies in epitaxial Ge _{1-x} Sn _x film grown at low temperature. <i>Applied Physics Express</i> , 2014, 7, 021302.	1.1	11
58	Characterization of locally strained Ge _{1-x} Sn _x /Ge fine structures by synchrotron X-ray microdiffraction. <i>Applied Physics Letters</i> , 2015, 106, .	1.5	11
59	Sn migration control at high temperature due to high deposition speed for forming high-quality GeSn layer. <i>Applied Physics Express</i> , 2016, 9, 031201.	1.1	11
60	SiO ₂ /GaN interfaces with low defect densities and high breakdown electric fields formed by plasma-enhanced atomic layer deposition. <i>Japanese Journal of Applied Physics</i> , 2022, 61, SC1073.	0.8	11
61	Interfacial Control and Electrical Properties of Ge MOS structures. <i>ECS Transactions</i> , 2009, 19, 67-85.	0.3	10
62	Correlation between channel mobility improvements and negative V_{th} shifts in III-V MISFETs: Dipole fluctuation as new scattering mechanism. , 2010, , .		10
63	Ge-rich SiGe-on-insulator for waveguide optical modulator application fabricated by Ge condensation and SiGe regrowth. <i>Optics Express</i> , 2013, 21, 19615.	1.7	10
64	Robustness of Sn precipitation during thermal oxidation of Ge _{1-x} Sn _x on Ge(001). <i>Japanese Journal of Applied Physics</i> , 2014, 53, 08LD04.	0.8	10
65	Epitaxial Ge _{1-x} Sn _x Layers Grown by Metal-Organic Chemical Vapor Deposition Using Tertiary-butyl-germane and Tri-butyl-vinyl-tin. <i>ECS Solid State Letters</i> , 2015, 4, P59-P61.	1.4	10
66	Ultrathin silicon oxynitride layer on GaN for dangling-bond-free GaN/insulator interface. <i>Scientific Reports</i> , 2018, 8, 1391.	1.6	10
67	Publisher's Note: Impact of hydrogen surfactant on crystallinity of Ge _{1-x} Sn _x epitaxial layers. <i>Japanese Journal of Applied Physics</i> , 2015, 54, 059202.	0.8	10
68	Interfacial Reaction Mechanisms in Al ₂ O ₃ /Ge Structure by Oxygen Radical Process. <i>Japanese Journal of Applied Physics</i> , 2013, 52, 04CA08.	0.8	9
69	Interface properties of Al ₂ O ₃ /Ge structures with thin Ge oxide interfacial layer formed by pulsed metal organic chemical vapor deposition. <i>Japanese Journal of Applied Physics</i> , 2014, 53, 08LD03.	0.8	9
70	Photoluminescence of phosphorous doped Ge on Si (100). <i>Materials Science in Semiconductor Processing</i> , 2017, 70, 111-116.	1.9	8
71	Impact of hydrogen surfactant on crystallinity of Ge _{1-x} Sn _x epitaxial layers. <i>Japanese Journal of Applied Physics</i> , 2015, 54, 04DH15.	0.8	7
72	Effect of Sn on crystallinity and electronic property of low temperature grown polycrystalline-Si _{1-x} Ge _x Sn layers on SiO ₂ . <i>Solid-State Electronics</i> , 2015, 110, 54-58.	0.8	7

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73	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 ₂ O ₃ /InGaAs metal-oxide-semiconductor interface properties. Applied Physics Letters, 2016, 109, 182111.	1.5	7
74	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
75	Electrical and optical properties improvement of GeSn layers formed at high temperature under well-controlled Sn migration. Materials Science in Semiconductor Processing, 2017, 70, 139-144.	1.9	7
76	Control of misfit dislocations in strain-relaxed SiGe buffer layers on SOI substrates. Thin Solid Films, 2006, 508, 147-151.	0.8	6
77	Analysis for positions of Sn atoms in epitaxial Ge _{1-x} Sn _x film in low temperature depositions. Thin Solid Films, 2014, 557, 173-176.	0.8	6
78	Formation and characterization of locally strained Ge _{1-x} Sn _x /Ge microstructures. Thin Solid Films, 2014, 557, 164-168.	0.8	6
79	Oxygen and germanium migration at low temperature influenced by the thermodynamic nature of the materials used in germanium metal-insulator-semiconductor structures. Applied Physics Letters, 2015, 107, .	1.5	6
80	Analysis of Microstructures in SiGe Buffer Layers on Silicon-on-Insulator Substrates. Japanese Journal of Applied Physics, 2005, 44, 7356-7363.	0.8	5
81	Formation, crystalline structure, and optical properties of Ge _{1-x} Sn _y Cy ternary alloy layers. Japanese Journal of Applied Physics, 2015, 54, 04DH08.	0.8	5
82	Formation of chemically stable GeO ₂ on the Ge surface with pulsed metal-organic chemical vapor deposition. Applied Physics Letters, 2015, 106, 062107.	1.5	5
83	Influence of interface traps inside the conduction band on the capacitance-voltage characteristics of InGaAs metal-oxide-semiconductor capacitors. Applied Physics Express, 2016, 9, 111202.	1.1	5
84	Energy band structure and electrical properties of Ga-oxide/GaN interface formed by remote oxygen plasma. Japanese Journal of Applied Physics, 2018, 57, 06KA05.	0.8	5
85	Impacts of Surface Roughness Reduction in (110) Si Substrates Fabricated by High-Temperature Annealing on Electron Mobility in n-Channel Metal-Oxide-Semiconductor Field-Effect Transistors on (110) Si. Japanese Journal of Applied Physics, 2013, 52, 04CC26.	0.8	4
86	Interaction of Sn atoms with defects introduced by ion implantation in Ge substrate. Journal of Applied Physics, 2014, 115, .	1.1	4
87	Formation and crystalline structure of Ni silicides on Si(110) substrate. Japanese Journal of Applied Physics, 2014, 53, 05GA12.	0.8	4
88	Importance of control of oxidant partial pressure on structural and electrical properties of Pr-oxide films. Thin Solid Films, 2014, 557, 276-281.	0.8	4
89	Experimental evidence of the existence of multiple charged states at Al ₂ O ₃ /GaN interfaces. Semiconductor Science and Technology, 2019, 34, 025009.	1.0	4
90	Impact of byproducts formed on a 4H-SiC surface on interface state density of Al ₂ O ₃ /4H-SiC(0001) gate stacks. Applied Physics Letters, 2020, 116, 222104.	1.5	4

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91	Impact of gate electrode formation process on Al ₂ O ₃ /GaN interface properties and channel mobility. Applied Physics Express, 2021, 14, 081001.	1.1	4
92	Effect of Ge Metal-Insulator-Semiconductor Interfacial Layers on Interface Trap Density near the Conduction Band Edge. Japanese Journal of Applied Physics, 2010, 49, 04DA09.	0.8	3
93	(Invited) Epitaxial Growth of GeSn Layers on (001), (110), and (111) Si and Ge Substrates. ECS Transactions, 2014, 64, 793-799.	0.3	3
94	Characterization of crystalline structures of SiGe substrate formed by traveling liquidus-zone method for devices with Ge/SiGe structures. Thin Solid Films, 2014, 557, 129-134.	0.8	3
95	Effects of nitridation for SiO ₂ /SiC interface on defect properties near the conduction band edge. Japanese Journal of Applied Physics, 2016, 55, 04ER13.	0.8	3
96	Defect and dislocation structures in low-temperature-grown Ge and Ge ^{1-x} Sn epitaxial layers on Si(110) substrates. Thin Solid Films, 2016, 598, 72-81.	0.8	3
97	Interface properties of SiO ₂ /GaN structures formed by chemical vapor deposition with remote oxygen plasma mixed with Ar or He. Japanese Journal of Applied Physics, 2018, 57, 06KA01.	0.8	3
98	Impacts of Al ₂ O ₃ /GaN interface properties on the screening effect and carrier mobility in an inversion layer. Japanese Journal of Applied Physics, 2019, 58, SAAF03.	0.8	3
99	Effect of gate metal on chemical bonding state in metal/Pr-oxide/Ge gate stack structure. Solid-State Electronics, 2013, 83, 56-60.	0.8	2
100	Doppler Broadening Spectroscopy of Positron Annihilation near Ge and Si (001) Single Crystal Surfaces. ECS Solid State Letters, 2013, 2, P89-P90.	1.4	2
101	Formation of high-quality Ge ^{1-x} Sn _x layer on Ge(110) substrate with strain-induced confinement of stacking faults at Ge ^{1-x} Sn _x /Ge interfaces. Applied Physics Express, 2014, 7, 061301.	1.1	2
102	Fabrication of Ge-rich SiGe-On-insulator waveguide for optical modulator. , 2011, , .		1
103	Importance of Ge surface oxidation with high oxidation rate in obtaining low interface state density at oxide/Ge interfaces. Japanese Journal of Applied Physics, 2014, 53, 08LD02.	0.8	1
104	Effect of thermal cleaning on formation of epitaxial Ni germanide layer on Ge(110) substrate. Japanese Journal of Applied Physics, 2014, 53, 05GA06.	0.8	1
105	Impact of Minority Carrier Response on Characterization of Ge MIS Interface Traps. ECS Transactions, 2009, 19, 117-128.	0.3	0
106	Highly-strained SGOI p-channel MOSFETs fabricated by applying Ge condensation technique to strained-SOI substrates. , 2011, , .		0
107	Effect of Gate Metal Electrode on Chemical Bonding State in Metal/Pr-Oxide/Ge Gate Stack Structure. , 2012, , .		0
108	Material Properties and Applications of Ge ^{1-x} Sn _x Alloys for Ge Nanoelectronics. , 2012, , .		0

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109	Epitaxial Growth and Anisotropic Strain Relaxation of Ge _{1-x} Sn _x Layers on Ge(110) Substrates. , 2012, , .		0
110	Effects of Light Exposure during Plasma Processing on Electrical Properties of GeO ₂ /Ge Structures. Japanese Journal of Applied Physics, 2013, 52, 01AC04.	0.8	0
111	Characterization of Local Strain Structures in Heteroepitaxial Ge _{1-x} Sn _x /Ge Microstructures by Using Microdiffraction Method. ECS Transactions, 2013, 58, 185-192.	0.3	0
112	Crystal growth of Sn-related group-IV alloy thin films for advanced Si nanoelectronics. , 2014, , .		0
113	Impact of crystalline structure on electrical property of NiGe/Ge contact. , 2014, , .		0
114	Formation and electrical properties of metal/Ge _{1-x} Sn _x contacts. , 2014, , .		0
115	Dislocation Morphology and Crystalline Mosaicity in Strain-Relaxed SiGe Buffer Layers on SOI. IEEJ Transactions on Electronics, Information and Systems, 2006, 126, 1083-1087.	0.1	0
116	Observation of lattice spacing fluctuation and strain undulation around through-Si vias in wafer-on-wafer structures using X-ray microbeam diffraction. Japanese Journal of Applied Physics, 2014, 53, 05GE03.	0.8	0
117	Control of Insulator/semiconductor Interfaces and Its Electrical Properties. Vacuum and Surface Science, 2018, 61, 384-389.	0.0	0
118	Study on Electron Emission from Phosphorus δ -Doped Si-QDs/Undoped Si-QDs Multiple-Stacked Structures. IEICE Transactions on Electronics, 2022, , .	0.3	0