

Tatsuro Maeda

List of Publications by Year in descending order

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98
papers

3,736
citations

218677

26
h-index

128289

60
g-index

98
all docs

98
docs citations

98
times ranked

3380
citing authors

#	ARTICLE	IF	CITATIONS
1	Atomic Control of the SrTiO ₃ Crystal Surface. <i>Science</i> , 1994, 266, 1540-1542.	12.6	1,130
2	Atomic-scale formation of ultrasmooth surfaces on sapphire substrates for high-quality thin-film fabrication. <i>Applied Physics Letters</i> , 1995, 67, 2615-2617.	3.3	378
3	1-nm-capacitance-equivalent-thickness HfO ₂ /Al ₂ O ₃ /InGaAs metal-oxide-semiconductor structure with low interface trap density and low gate leakage current density. <i>Applied Physics Letters</i> , 2012, 100, .	3.3	146
4	High mobility Ge-on-insulator p-channel MOSFETs using Pt germanide Schottky source/drain. <i>IEEE Electron Device Letters</i> , 2005, 26, 102-104.	3.9	125
5	Topmost surface analysis of SrTiO ₃ (001) by coaxial impact-collision ion scattering spectroscopy. <i>Applied Physics Letters</i> , 1994, 65, 3197-3199.	3.3	113
6	Room-Temperature Epitaxial Growth of CeO_2 Thin Films on Si(111) Substrates for Fabrication of Sharp Oxide/Silicon Interface. <i>Japanese Journal of Applied Physics</i> , 1995, 34, L688-L690.	1.5	106
7	Highly suppressed short-channel effects in ultrathin SOI n-MOSFETs. <i>IEEE Transactions on Electron Devices</i> , 2000, 47, 354-359.	3.0	103
8	Gate dielectric formation and MIS interface characterization on Ge. <i>Microelectronic Engineering</i> , 2007, 84, 2314-2319.	2.4	101
9	Room-temperature single-electron memory made by pulse-mode atomic force microscopy nano oxidation process on atomically flat Al_2O_3 alumina substrate. <i>Applied Physics Letters</i> , 2000, 76, 239-241.	3.3	92
10	Ge metal-insulator-semiconductor structures with Ge ₃ N ₄ dielectrics by direct nitridation of Ge substrates. <i>Applied Physics Letters</i> , 2004, 85, 3181-3183.	3.3	89
11	Role of germanium nitride interfacial layers in HfO ₂ /germanium nitride/germanium metal-insulator-semiconductor structures. <i>Applied Physics Letters</i> , 2007, 90, 072911.	3.3	80
12	Thin-body Ge-on-insulator p-channel MOSFETs with Pt germanide metal source/drain. <i>Thin Solid Films</i> , 2006, 508, 346-350.	1.8	63
13	Pure germanium nitride formation by atomic nitrogen radicals for application to Ge metal-insulator-semiconductor structures. <i>Journal of Applied Physics</i> , 2006, 100, 014101.	2.5	63
14	Orientation-defined molecular layer epitaxy of Al_2O_3 thin films. <i>Journal of Crystal Growth</i> , 1997, 177, 95-101.	1.5	57
15	Electrical properties of Si nanocrystals embedded in an ultrathin oxide. <i>Nanotechnology</i> , 1999, 10, 127-131.	2.6	54
16	Sulfur passivation of Ge (001) surfaces and its effects on Schottky barrier contact. <i>Materials Science in Semiconductor Processing</i> , 2006, 9, 706-710.	4.0	46
17	Direct Observation of Helical Polysilane Nanostructures by Atomic Force Microscopy. <i>Japanese Journal of Applied Physics</i> , 1997, 36, L1211-L1213.	1.5	44
18	Tensile-Strained GeSn Metal-Oxide-Semiconductor Field-Effect Transistor Devices on Si(111) Using Solid Phase Epitaxy. <i>Applied Physics Express</i> , 2013, 6, 101301.	2.4	40

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19	Impact of atomic layer deposition temperature on HfO ₂ /InGaAs metal-oxide-semiconductor interface properties. <i>Journal of Applied Physics</i> , 2012, 112, .	2.5	38
20	Two-dimensional laser molecular beam epitaxy and carrier modulation of infinite-layer BaCuO ₂ films. <i>Physica C: Superconductivity and Its Applications</i> , 1995, 247, 142-146.	1.2	35
21	Unexpected equivalent-oxide-thickness dependence of the subthreshold swing in tunnel field-effect transistors. <i>Applied Physics Express</i> , 2014, 7, 024201.	2.4	35
22	Carrier and heat transport properties of polycrystalline GeSn films on SiO ₂ . <i>Applied Physics Letters</i> , 2015, 107, .	3.3	33
23	Characterization of platinum germanide/Ge(100) Schottky barrier height for Ge channel Metal Source/Drain MOSFET. <i>Thin Solid Films</i> , 2006, 508, 359-362.	1.8	32
24	Unit cell layer-by-layer heteroepitaxy of BaO thin films at temperatures as low as 20±%Å°C. <i>Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films</i> , 1997, 15, 2469-2472.	2.1	29
25	Impact of Fermi level pinning inside conduction band on electron mobility in InGaAs metal-oxide-semiconductor field-effect transistors. <i>Applied Physics Letters</i> , 2013, 103, .	3.3	27
26	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. <i>Applied Physics Express</i> , 2012, 5, 076501.	2.4	26
27	Impact of Fermi Level Pinning Due to Interface Traps Inside the Conduction Band on the Inversion-Layer Mobility in $\text{In}_x\text{Ga}_{1-x}\text{As}$ Metal-Oxide-Semiconductor Field Effect Transistors. <i>IEEE Transactions on Device and Materials Reliability</i> , 2013, 13, 456-462.	2.0	25
28	Gate-First High-Performance Germanium nMOSFET and pMOSFET Using Low Thermal Budget Ion Implantation After Germanidation Technique. <i>IEEE Electron Device Letters</i> , 2016, 37, 253-256.	3.9	25
29	High-Speed Source-Heterojunction-MOS-Transistor (SHOT) Utilizing High-Velocity Electron Injection. <i>IEEE Transactions on Electron Devices</i> , 2005, 52, 2690-2696.	3.0	24
30	Hole mobility enhancement of p-MOSFETs using global and local Ge-channel technologies. <i>Materials Science and Engineering B: Solid-State Materials for Advanced Technology</i> , 2006, 135, 250-255.	3.5	24
31	Ultrathin layer transfer technology for post-Si semiconductors. <i>Microelectronic Engineering</i> , 2013, 109, 133-136.	2.4	24
32	Self-limiting growth of ultrathin Ga ₂ O ₃ for the passivation of Al ₂ O ₃ /InGaAs interfaces. <i>Applied Physics Express</i> , 2014, 7, 011201.	2.4	22
33	Behavior of Sn atoms in GeSn thin films during thermal annealing: <i>Ex-situ</i> and <i>in-situ</i> observations. <i>Journal of Applied Physics</i> , 2016, 120, .	2.5	21
34	Metal-Based Room-Temperature Operating Single Electron Devices Using Scanning Probe Oxidation. <i>Japanese Journal of Applied Physics</i> , 1999, 38, 477-479.	1.5	20
35	Experimental and theoretical results of room-temperature single-electron transistor formed by the atomic force microscope nano-oxidation process. <i>Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films</i> , 2000, 18, 1321-1325.	2.1	20
36	Fabrication and device characteristics of strained-Si-on-insulator (strained-SOI) CMOS. <i>Applied Surface Science</i> , 2004, 224, 241-247.	6.1	19

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37	Room Temperature Coulomb Diamond Characteristic of Single Electron Transistor Made by AFM Nano-Oxidation Process. Japanese Journal of Applied Physics, 2002, 41, 2578-2582.	1.5	18
38	High Electron Mobility Ge n-Channel Metal-Insulator-Semiconductor Field-Effect Transistors Fabricated by the Gate-Last Process with the Solid Source Diffusion Technique. Applied Physics Express, 2010, 3, 061301.	2.4	18
39	Initial Processes of Atomic Layer Deposition of Al ₂ O ₃ on InGaAs: Interface Formation Mechanisms and Impact on Metal-Insulator-Semiconductor Device Performance. Materials, 2012, 5, 404-414.	2.9	18
40	Epitaxial Growth of BaTiO ₃ Thin Film on SrTiO ₃ Substrate in Ultra High Vacuum without Introducing Oxidant. Japanese Journal of Applied Physics, 2001, 40, L463-L464.	1.5	17
41	Thin-Film Strained-SOI CMOS Devices—Physical Mechanisms for Reduction of Carrier Mobility. IEEE Transactions on Electron Devices, 2004, 51, 1114-1121.	3.0	17
42	Structural and Optical Properties of Amorphous and Crystalline GeSn Layers on Si. ECS Journal of Solid State Science and Technology, 2014, 3, P403-P408.	1.8	17
43	Wafer-scale layer transfer of GaAs and Ge onto Si wafers using patterned epitaxial lift-off. Japanese Journal of Applied Physics, 2015, 54, 036505.	1.5	17
44	Advanced germanium layer transfer for ultra thin body on insulator structure. Applied Physics Letters, 2016, 109, .	3.3	17
45	First Experimental Observation of Channel Thickness Scaling Induced Electron Mobility Enhancement in UTB-GeOI nMOSFETs. IEEE Transactions on Electron Devices, 2017, 64, 4615-4621.	3.0	15
46	Ultrathin GeSn p-channel MOSFETs grown directly on Si(111) substrate using solid phase epitaxy. Japanese Journal of Applied Physics, 2015, 54, 04DA07.	1.5	14
47	Molecular layer-by-layer growth of SrTiO ₃ and BaTiO ₃ films by laser molecular beam epitaxy. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 1996, 41, 134-137.	3.5	12
48	Suppressed threshold voltage roll-off characteristic of 40 nm gate length ultrathin SOI MOSFET. Electronics Letters, 1998, 34, 2069.	1.0	12
49	Analysis of square-law detector for high-sensitive detection of terahertz waves. Journal of Applied Physics, 2019, 125, 174506.	2.5	12
50	Single electron memory characteristic of silicon nanodot nanowire transistor. Electronics Letters, 2000, 36, 1322.	1.0	11
51	Achieving low parasitic resistance in Ge p-channel metal-oxide-semiconductor field-effect transistors by ion implantation after germanidation. Applied Physics Express, 2015, 8, 054201.	2.4	11
52	Raman spectroscopic characterization of germanium-on-insulator nanolayers. Applied Physics Letters, 2016, 108, .	3.3	11
53	Enhancement of mobility in ultra-thin-body GeOI p-channel metal-oxide-semiconductor field effect transistors with Si-passivated back interfaces. Applied Physics Express, 2016, 9, 091302.	2.4	10
54	Carrier and heat transport properties of poly-crystalline GeSn films for thin-film transistor applications. Journal of Applied Physics, 2019, 126, .	2.5	10

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55	Mechanism of Photoinduced Charge Transfer in Co(Li)-Doped ZnO Film. Japanese Journal of Applied Physics, 1992, 31, L1079-L1082.	1.5	9
56	Growth and Characterization of Ferroelectric Pb(Zr,Ti)O ₃ Films on Interface-Controlled CeO ₂ (111)/Si(111) Structures. Japanese Journal of Applied Physics, 1997, 36, 6500-6503.	1.5	9
57	(Invited) Thin Epitaxial Film of Ge and III-V Directly Bonded onto Si Substrate. ECS Transactions, 2014, 64, 491-498.	0.5	9
58	Surface-oxide stress induced band-structure modulation in two-dimensional Si layers. Japanese Journal of Applied Physics, 2015, 54, 04DC02.	1.5	9
59	Partitioning sample collection/solvent extraction cartridge packed with octadecyl-derivatized macroporous silica particles for the analysis of sesquiterpenes in air samples. Journal of Separation Science, 2015, 38, 3891-3896.	2.5	8
60	SiGe-on-Insulator and Ge-on-Insulator Substrates Fabricated by Ge-Condensation Technique for High-Mobility Channel CMOS Devices. Materials Research Society Symposia Proceedings, 2004, 809, B2.1.1.	0.1	7
61	High-performance (110)-surface strained-SOI MOSFETs. Materials Science in Semiconductor Processing, 2005, 8, 327-336.	4.0	7
62	Tunnel Field-Effect Transistors with Extremely Low Off-Current Using Shadowing Effect in Drain Implantation. Japanese Journal of Applied Physics, 2011, 50, 06GF14.	1.5	7
63	Hole Hall mobility of SiGe alloys grown by the traveling liquidus-zone method. Applied Physics Letters, 2015, 107, .	3.3	7
64	Surface cleaning and pure nitridation of GaSb by in-situ plasma processing. AIP Advances, 2017, 7, 105117.	1.3	7
65	High and broadband sensitivity front-side illuminated InGaAs photo field-effect transistors (photoFETs) with SWIR transparent conductive oxide (TCO) gate. Applied Physics Letters, 2021, 119, .	3.3	7
66	Spectroscopic Ellipsometry Studies on Ultrathin Hydrogenated Amorphous Silicon Films Prepared by Thermal Chemical Vapor Deposition. Japanese Journal of Applied Physics, 2000, 39, 6196-6201.	1.5	6
67	Ultrathin Body Germanium-on-Insulator (GeOI) Pseudo-MOSFETs Fabricated by Transfer of Epitaxial Ge Films on III-V Substrates. ECS Solid State Letters, 2014, 4, P15-P18.	1.4	6
68	Si _{1-x} Ge _x bulk single crystals for substrates of electronic devices. Materials Science in Semiconductor Processing, 2017, 70, 12-16.	4.0	6
69	InGaAs photo field-effect-transistors (PhotoFETs) on half-inch Si wafer using layer transfer technology. Japanese Journal of Applied Physics, 2020, 59, SGGE03.	1.5	6
70	Plane-view observation technique of silicon nanowires by transmission electron microscopy. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 1999, 17, 1897.	1.6	5
71	Ultra-thin germanium-tin on insulator structure through direct bonding technique. Semiconductor Science and Technology, 2018, 33, 124002.	2.0	5
72	Spectral Responsivity Characteristics of Front-Side Illumination InGaAs PhotoFETs on Si. Physica Status Solidi (A) Applications and Materials Science, 2021, 218, 2000439.	1.8	5

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73	Fabrication technology of ultrafine SiO ₂ masks and Si nanowires using oxidation of vertical sidewalls of a poly-Si layer. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 1999, 17, 77.	1.6	4
74	Changes in surface states during epitaxial growth of BaTiO ₃ on SrTiO ₃ substrate in connection with composition deviation. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2001, 19, 2083-2088.	2.1	4
75	Impact of Ge nitride interfacial layers on performance of metal gate/high-k Ge-nMISFETs. , 2010, , .		4
76	Effects of HCl treatment and predeposition vacuum annealing on Al ₂ O ₃ /GaSb/GaAs metal-oxide-semiconductor structures. Japanese Journal of Applied Physics, 2015, 54, 021201.	1.5	4
77	Tensile strain ultra thin body SiGe on insulator through hetero-layer transfer technique. Materials Science in Semiconductor Processing, 2017, 70, 123-126.	4.0	4
78	Fabrication of 40-150 nm Gate Length Ultrathin n-MOSFETs Using Epitaxial Layer Transfer SOI Wafers. Japanese Journal of Applied Physics, 1999, 38, 2492-2495.	1.5	3
79	Growth of epitaxial CoSi ₂ for contacts of ultra-thin SOI MOSFETs. Thin Solid Films, 2000, 369, 240-243.	1.8	3
80	Performance and reliability improvement in Ge(100) nMOSFETs through channel flattening process. Solid-State Electronics, 2020, 169, 107816.	1.4	3
81	Optical study of electron and acoustic phonon confinement in ultrathin-body germanium-on-insulator nanolayers. Nanoscale, 2021, 13, 9686-9697.	5.6	3
82	Room temperature Coulomb oscillation and memory effect for single electron memory made by pulse-mode AFM nano-oxidation process. , 0, , .		2
83	Flattening Phenomenon Observed during Epitaxial Growth of BaTiO ₃ by Alternating Deposition Method. Japanese Journal of Applied Physics, 1999, 38, L1137-L1139.	1.5	2
84	Controlling Anion Composition at Metal-Insulator-Semiconductor Interfaces on III-V Channels by Plasma Processing. Japanese Journal of Applied Physics, 2012, 51, 065701.	1.5	2
85	Heat transport properties of alumina gate insulator films on Ge substrates fabricated by atomic layer deposition. Materials Science in Semiconductor Processing, 2021, 121, 105396.	4.0	2
86	Fabrication of atomically defined oxide films on Si by laser molecular beam epitaxy. Physica B: Condensed Matter, 1996, 227, 323-325.	2.7	1
87	Fabrication of single electron memory on atomically flat \pm -Al ₂ O ₃ substrate made by AFM nano-oxidation process. , 0, , .		1
88	Germanium Layer Transfer with Low Temperature Direct Bonding and Epitaxial Lift-off Technique for Ge-based monolithic 3D integration. , 2019, , .		1
89	Surface bonding state of germanium via cyclic dry treatments using plasma of hydrogen iodine and pure oxygen gases. Japanese Journal of Applied Physics, 2022, 61, SD1024.	1.5	1
90	Low thermal budget epitaxial lift off (ELO) for Ge (111)-on-insulator structure. Japanese Journal of Applied Physics, 2022, 61, SC1024.	1.5	1

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91	Electron mobility improvement by in situ annealing before deposition of HfO ₂ gate dielectric with equivalent oxide thickness of sub-1.0 nm in In _{0.53} Ga _{0.47} As n-type metal-insulator-semiconductor field-effect transistor. Applied Physics Express, 2014, 7, 061202.	2.4	0
92	Experimental study on interface region of two-dimensional Si layers by forming gas annealing. Japanese Journal of Applied Physics, 2016, 55, 04ED04.	1.5	0
93	Ion implantation after germanidation technique for low thermal budget Ge CMOS devices: From bulk Ge to UTB-GeOI substrate. , 2017, , .		0
94	(Invited) Layer Transfer Technology for Stacked Multi-Channel Semiconductor-on-Insulator Platform. ECS Transactions, 2021, 102, 17-26.	0.5	0
95	(Invited) Layer Transfer Technology for Stacked Multi-Channel Semiconductor-on-Insulator Platform. ECS Meeting Abstracts, 2021, MA2021-01, 1089-1089.	0.0	0
96	(Invited) Epitaxial Growth of Ge/III-V Films and Hetero-Layer Lift-off for Ultra-Thin GeOI Fabrication. ECS Transactions, 2020, 98, 157-167.	0.5	0
97	(Invited) Epitaxial Growth of Ge/III-V Films and Hetero-Layer Lift-off for Ultra-Thin GeOI Fabrication. ECS Meeting Abstracts, 2020, MA2020-02, 1715-1715.	0.0	0
98	Transparent Conductive Oxide (TCO) Gated Ingaas Mosfets for Front-Side Illuminated Short-Wave Infrared Detection. ECS Meeting Abstracts, 2022, MA2022-01, 1282-1282.	0.0	0