Akira Sakai

List of Publications by Year
in descending order

Source: https://exaly.com/author-pdf/2708146/publications.pdf

Version: 2024-02-01

72	2,429	16	49
papers	citations	h-index	g-index
		516215	197535

74	74	74	1533
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Thick GaN Epitaxial Growth with Low Dislocation Density by Hydride Vapor Phase Epitaxy. Japanese Journal of Applied Physics, 1997, 36, L899-L902.	0.8	885
2	Defect structure in selectively grown GaN films with low threading dislocation density. Applied Physics Letters, 1997, 71, 2259-2261.	1.5	407
3	Anomalous reduction of thermal conductivity in coherent nanocrystal architecture for silicon thermoelectric material. Nano Energy, 2015, 12, 845-851.	8.2	150
4	Growth of highly strain-relaxed Ge1â^'xSnx/virtual Ge by a Sn precipitation controlled compositionally step-graded method. Applied Physics Letters, 2008, 92, .	1.5	112
5	Ultrathin Tantalum Oxide Capacitor Dielectric Layers Fabricated Using Rapid Thermal Nitridation prior to Low Pressure Chemical Vapor Deposition. Journal of the Electrochemical Society, 1993, 140, 1617-1625.	1.3	86
6	Phonon transport control by nanoarchitecture including epitaxial Ge nanodots for Si-based thermoelectric materials. Scientific Reports, 2015, 5, 14490.	1.6	71
7	Growth and structure evaluation of strain-relaxed Ge1â^'xSnxbuffer layers grown on various types of substrates. Semiconductor Science and Technology, 2007, 22, S231-S235.	1.0	70
8	Ulfrathin Tantalum Oxide Capacitor Process Using Oxygenâ€Plasma Annealing. Journal of the Electrochemical Society, 1994, 141, 1246-1251.	1.3	69
9	Pure-edge dislocation network for strain-relaxed SiGeâ^•Si(001) systems. Applied Physics Letters, 2005, 86, 221916.	1.5	58
10	Independent control of electrical and heat conduction by nanostructure designing for Si-based thermoelectric materials. Scientific Reports, 2016, 6, 22838.	1.6	45
11	Tensile strained Ge layers on strain-relaxed Ge1â^'Sn /virtual Ge substrates. Thin Solid Films, 2008, 517, 159-162.	0.8	41
12	Ge1â^'Sn stressors for strained-Ge CMOS. Solid-State Electronics, 2011, 60, 53-57.	0.8	33
13	Development of High-Angular-Resolution Microdiffraction System for Reciprocal Space Map Measurements. Japanese Journal of Applied Physics, 2006, 45, L1054-L1056.	0.8	29
14	Local strain in SiGe/Si heterostructures analyzed by X-ray microdiffraction. Thin Solid Films, 2006, 508, 128-131.	0.8	27
15	Control of Sn Precipitation and Strain Relaxation in Compositionally Step-Graded Ge1-xSnxBuffer Layers for Tensile-Strained Ge Layers. Japanese Journal of Applied Physics, 2009, 48, 04C130.	0.8	23
16	Metal-organic chemical vapor deposition of high-dielectric-constant praseodymium oxide films using a cyclopentadienyl precursor. Applied Physics Letters, 2010, 96, 012105.	1.5	16
17	Dislocation confinement in the growth of Na flux GaN on metalorganic chemical vapor deposition-GaN. Journal of Applied Physics, 2015, 118, .	1.1	15
18	Leakage current analysis for dislocations in Na-flux GaN bulk single crystals by conductive atomic force microscopy. Journal of Applied Physics, 2018, 123, 161417.	1.1	14

#	Article	IF	Citations
19	(Invited) Assessment of Ge1-xSnx Alloys for Strained Ge CMOS Devices. ECS Transactions, 2010, 33, 529-535.	0.3	13
20	Fabrication of Si Thermoelectric Nanomaterials Containing Ultrasmall Epitaxial Ge Nanodots with an Ultrahigh Density. Journal of Electronic Materials, 2015, 44, 2015-2020.	1.0	13
21	Fabrication of Carrier-Doped Si Nanoarchitecture for Thermoelectric Material by Ultrathin SiO2 Film Technique. Journal of Electronic Materials, 2016, 45, 1914-1920.	1.0	13
22	Correlation between current leakage and structural properties of threading dislocations in GaN bulk single crystals grown using a Na-flux method. Japanese Journal of Applied Physics, 2019, 58, SCCB23.	0.8	13
23	Mechanical Properties and Chemical Reactions at the Directly Bonded Siâ€"Si Interface. Japanese Journal of Applied Physics, 2009, 48, 011202.	0.8	11
24	Epitaxial multilayers of Î²-FeSi2 nanodots/Si for Si-based nanostructured electronic materials. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2017, 35, 041402.	0.9	11
25	Propagation of threading dislocations and effects of Burgers vectors in HVPE-grown GaN bulk crystals on Na-flux-grown GaN substrates. Journal of Applied Physics, 2021, 129, .	1.1	11
26	Cross-sectional X-ray microdiffraction study of a thick AlN film grown on a trench-patterned AlN/Î±-Al2O3 template. Journal of Crystal Growth, 2013, 381, 37-42.	0.7	10
27	Epitaxial iron oxide nanocrystals with memory function grown on Si substrates. Applied Physics Express, 2016, 9, 055508.	1.1	10
28	Gate Tuning of Synaptic Functions Based on Oxygen Vacancy Distribution Control in Four-Terminal TiO2âˆ’x Memristive Devices. Scientific Reports, 2019, 9, 10013.	1.6	10
29	Control of epitaxial growth of Fe-based nanocrystals on Si substrates using well-controlled nanometer-sized interface. Journal of Applied Physics, 2014, 115, 044301.	1.1	9
30	Analysis of Ti valence states in resistive switching regions of a rutile TiO_{2âˆ’} <i> _x </i> four-terminal memristive device. Japanese Journal of Applied Physics, 2018, 57, 06KB02.	0.8	9
31	Quantification of local strain distributions in nanoscale strained SiGe FinFET structures. Journal of Applied Physics, 2017, 122, .	1.1	9
32	Influence of nanometer-sized interface on reaction of iron nanocrystals epitaxially grown on silicon substrates with oxygen gas. Journal of Applied Physics, 2013, 114, .	1.1	8
33	Microscopic crystalline structure of a thick AlN film grown on a trench-patterned AlN/Î±-Al2O3 template. Journal of Crystal Growth, 2015, 411, 38-44.	0.7	8
34	Microstructures in directly bonded Si substrates. Solid-State Electronics, 2009, 53, 837-840.	0.8	7
35	Structural change of direct silicon bonding substrates by interfacial oxide out-diffusion annealing. Thin Solid Films, 2010, 518, S147-S150.	0.8	7
36	Myoglobin-based non-precious metal carbon catalysts for an oxygen reduction reaction. Journal of Porphyrins and Phthalocyanines, 2015, 19, 510-516.	0.4	7

#	Article	IF	Citations
37	Control of dislocation morphology and lattice distortion in Na-flux GaN crystals. Journal of Applied Physics, 2017, 122, 105303.	1.1	7
38	Resistive switching characteristics of isolated core-shell iron oxide/germanium nanocrystals epitaxially grown on Si substrates. Applied Physics Letters, 2018, 112, .	1.5	7
39	Nanometer-Scale Characterization Technique for Si Nanoelectric Materials Using Synchrotron Radiation Microdiffraction. Key Engineering Materials, 2011, 470, 104-109.	0.4	6
40	Crystalline property analysis of semipolar (20â€“21) GaN on (22â€“43) patterned sapphire substrate by Xâ€ray microdiffraction and transmission electron microscopy. Physica Status Solidi (B): Basic Research, 2015, 252, 1149-1154.	0.7	6
41	Microstructural analysis of an epitaxial AlN thick film/trench-patterned template by three-dimensional reciprocal lattice space mapping technique. Applied Physics Express, 2016, 9, 111001.	1.1	6
42	Tomographic Mapping Analysis in the Depth Direction of High-Ge-Content SiGe Layers with Compositionally Graded Buffers Using Nanobeam X-ray Diffraction. ACS Applied Materials & Interfaces, 2017, 9, 13726-13732.	4.0	6
43	Demonstrative operation of four-terminal memristive devices fabricated on reduced TiO2 single crystals. Scientific Reports, 2019, 9, 2601.	1.6	6
44	Thickness and growth condition dependence of crystallinity in semipolar (20â€“21) GaN films grown on (22â€“43) patterned sapphire substrates. Physica Status Solidi (B): Basic Research, 2015, 252, 1142-1148.	0.7	5
45	X-ray microdiffraction investigation of crystallinity and strain relaxation in Ge thin lines selectively grown on Si(001) substrates. Solid-State Electronics, 2011, 60, 26-30.	0.8	4
46	First demonstration of threshold voltage control by sub-1V back-gate biasing for thin body and buried-oxide (TBB) Ge-on-insulator (GOI) MOSFETs for low-power operation. , 2012, , .		4
47	Local current leakage at threading dislocations in GaN bulk single crystals grown by a modified Na-flux method. Japanese Journal of Applied Physics, 2019, 58, 050918.	0.8	4
48	Fabrication of GaO x based crossbar array memristive devices and their resistive switching properties. Japanese Journal of Applied Physics, 2020, 59, SMMC03.	0.8	4
49	Versatile Functionality of Four-Terminal TiO_{2â€“<i>x</i>} Memristive Devices as Artificial Synapses for Neuromorphic Computing. ACS Applied Electronic Materials, 2022, 4, 2326-2336.	2.0	4
50	Anisotropic crystalline morphology of epitaxial thick AlN films grown on triangular-striped AlN/sapphire template. Physica Status Solidi (A) Applications and Materials Science, 2014, 211, 731-735.	0.8	3
51	Formation and optical properties of Ge films grown on Si(111) substrates using nanocontact epitaxy. Applied Surface Science, 2015, 325, 170-174.	3.1	3
52	Positional dependence of defect distribution in semipolar hydride vapor phase epitaxy-GaN films grown on patterned sapphire substrates. Japanese Journal of Applied Physics, 2016, 55, 05FA07.	0.8	3
53	Microstructural analysis in the depth direction of a heteroepitaxial AlN thick film grown on a trench-patterned template by nanobeam X-ray diffraction. Journal of Applied Physics, 2018, 123, .	1.1	3
54	Depth-resolved analysis of lattice distortions in high-Ge-content SiGe/compositionally graded SiGe films using nanobeam x-ray diffraction. Semiconductor Science and Technology, 2018, 33, 124005.	1.0	3

#	Article	IF	Citations
55	Thermal strain analysis considering in-plane anisotropy for sputtered AlN on <i>c</i>- and <i>a</i>-plane sapphire under high-temperature annealing. AIP Advances, 2021, 11, .	0.6	3
56	Self-organization of two-dimensional SiGe nanodot arrays using selective etching of pure-edge dislocation network. Journal of Applied Physics, 2011, 109, 044301-044301-4.	1.1	2
57	Analysis of inverse-piezoelectric-effect-induced lattice deformation in AlGaN/GaN high-electron-mobility transistors by time-resolved synchrotron radiation nanobeam X-ray diffraction. Applied Physics Express, 2021, 14, 095502.	1.1	2
58	Characterization of wafer-bonded substrates for advanced channels in Si-based MOSFET. , 2010, , .		1
59	High-resolution X-ray microdiffraction analysis of local strain in semiconductor materials. , 2010, , .		1
60	Microscopic Structure of Directly Bonded Silicon Substrates. Key Engineering Materials, 0, 470, 164-170.	0.4	1
61	Improvement effect of electrical properties in postâ€annealed waferâ€bonded Ge(001)â€<scp>OI</scp> substrate. Physica Status Solidi (A) Applications and Materials Science, 2014, 211, 601-605.	0.8	1
62	Slit Length Dependence of rf-SQUID Resonant Frequency. Physics Procedia, 2015, 65, 181-184.	1.2	1
63	Local piezoelectric properties in Na-flux GaN bulk single crystals. Journal of Applied Physics, 2020, 128, 125110.	1.1	1
64	Characterization of deposited materials formed by focused ion beam-induced chemical vapor deposition using an AuSi alloyed metal source. , 2007, , .		0
65	Control of Dislocations and Sn Precipitations for Fabrication of Tensile-strained Ge on Ge_{1-x}Sn_x Buffer Layer. Transactions of the Materials Research Society of Japan, 2009, 34, 301-304.	0.2	0
66	Structural Change during the Formation of Directly Bonded Silicon Substrates. Key Engineering Materials, 2011, 470, 158-163.	0.4	0
67	Siliconâ€“germanium (SiGe) crystal growth using molecular beam epitaxy. , 2011, , 83-116.		0
68	Fabrication of Bonded GeOI Substrates with Thin Al2O3/SiO2 Buried Oxide Layers. , 2012, , .		0
69	Characterization of Ge Films on Si(001) Substrates Grown by Nanocontact Epitaxy. , 2012, , .		0
70	Improvement Effect of Electrical Properties in Post-Annealed Wafer-Bonded Ge(001)-OI Substrate. , 2012, , .		0
71	Improvement of current drive of Ge-nMISFETs by epitaxially grown n⁺-Ge:P source and drain. , 2014, , .		0
72	Local Strain Distribution in AlN Thick Films Analyzed by X-Ray Microdiffraction. Materials Science Forum, 0, 783-786, 2016-2021.	0.3	0