Masaaki Araidai

List of Publications by Year
in descending order

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65 papers	796 citations	759233 12 h-index	580821 25 g-index
66 all docs	66 docs citations	66 times ranked	984 citing authors

#	Article	IF	Citations
1	Germanene Epitaxial Growth by Segregation through Ag(111) Thin Films on Ge(111). ACS Nano, 2018, 12, 11632-11637.	14.6	109
2	Theoretical calculations of electron transport in molecular junctions: Inflection behavior in Fowler-Nordheim plot and its origin. Physical Review B, 2010, 81, .	3.2	99
3	Field emission mechanisms of graphitic nanostructures. Physical Review B, 2004, 70, .	3.2	59
4	GeTe sequences in superlattice phase change memories and their electrical characteristics. Applied Physics Letters, 2014, 104, .	3.3	57
5	Composition dependence of magnetoresistance effect and its annealing endurance in tunnel junctions having Mn-Ga electrode with high perpendicular magnetic anisotropy. Applied Physics Letters, 2011, 99, .	3.3	45
6	Surface-segregated Si and Ge ultrathin films formed by Ag-induced layer exchange process. Japanese Journal of Applied Physics, 2016, 55, 08NB07.	1.5	30
7	Continuous Growth of Germanene and Stanene Lateral Heterostructures. Advanced Materials Interfaces, 2020, 7, 1902132.	3.7	24
8	Edge states of hydrogen terminated monolayer materials: silicene, germanene and stanene ribbons. Journal of Physics Condensed Matter, 2017, 29, 115302.	1.8	22
9	Epitaxial growth of honeycomb-like stanene on Au(111). Applied Surface Science, 2020, 517, 146224.	6.1	21
10	Thermodynamic considerations of the vapor phase reactions in IIIâ€“nitride metal organic vapor phase epitaxy. Japanese Journal of Applied Physics, 2017, 56, 04CJ04.	1.5	17
11	Effect of incorporation of nitrogen atoms in Al₂O₃gate dielectric of wide-bandgap-semiconductor MOSFET on gate leakage current and negative fixed charge. Applied Physics Express, 2018, 11, 061501.	2.4	17
12	Charge-injection phase change memory with high-quality GeTe/Sb<inf>2</inf>Te<inf>3</inf> superlattice featuring 70-μA RESET, 10-ns SET and 100M endurance cycles operations. , 2013, , .		16
13	Density functional study for crystalline structures and electronic properties of Si1â^'xSnxbinary alloys. Japanese Journal of Applied Physics, 2016, 55, 08PE04.	1.5	16
14	Investigation of the GaN/Al₂O₃ Interface by First Principles Calculations. Physica Status Solidi (B): Basic Research, 2018, 255, 1700323.	1.5	14
15	First principles study of SiC/SiO<inf>2</inf> interfaces towards future power devices. , 2014, , .		12
16	Thermodynamic analysis of trimethylgallium decomposition during GaN metal organic vapor phase epitaxy. Japanese Journal of Applied Physics, 2018, 57, 04FJ03.	1.5	12
17	Ab Initio Calculation of Surface Atom Evaporation in Electron Field Emission. E-Journal of Surface Science and Nanotechnology, 2007, 5, 106-109.	0.4	11
18	Formation of ultrathin segregated-Ge crystal on Al/Ge(111) surface. Japanese Journal of Applied Physics, 2020, 59, SGGK15.	1.5	10

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19	Diffusion processes in single-atom electromigration along a gold chain: First-principles calculations. Physical Review B, 2009, 80, .	3.2	9
20	55-µA Ge<inf>x</inf>Te<inf>1−x</inf>/Sb<inf>2</inf>Te<inf>3</inf> superlattice topological-switching random access memory (TRAM) and study of atomic arrangement in Ge-Te and Sb-Te structures. , 2014, , .		9
21	Segregated SiGe ultrathin layer formation and surface planarization on epitaxial Ag(111) by annealing of Ag/SiGe(111) with different Ge/(Si + Ge) compositions. Japanese Journal of Applied Physics, 2018, 57, 04FJ05.	1.5	9
22	Influence of edge magnetization and electric fields on zigzag silicene, germanene and stanene nanoribbons. Journal of Physics Condensed Matter, 2019, 31, 105302.	1.8	9
23	Field Emission of Diamond Surfaces by Time-Dependent Density-Functional Calculations. Japanese Journal of Applied Physics, 2003, 42, L666-L668.	1.5	8
24	1T-1R pillar-type topological-switching random access memory (TRAM) and data retention of GeTe/Sb<inf>2</inf>Te<inf>3</inf> super-lattice films. , 2014, , .		8
25	First-principles and thermodynamic analysis of trimethylgallium (TMG) decomposition during MOVPE growth of GaN. Journal of Crystal Growth, 2017, 468, 950-953.	1.5	8
26	Growth of two-dimensional Ge crystal by annealing of heteroepitaxial Ag/Ge(111) under N₂ ambient. Japanese Journal of Applied Physics, 2018, 57, 06HD08.	1.5	8
27	Effects of annealing with CO and CO2 molecules on oxygen vacancy defect density in amorphous SiO2 formed by thermal oxidation of SiC. Journal of Applied Physics, 2018, 124, 135701.	2.5	8
28	Hydrogen desorption from silicane and germanane crystals: Toward creation of free-standing monolayer silicene and germanene. Journal of Applied Physics, 2020, 128, 125301.	2.5	8
29	Ab initio study of field emission from hydrogen defects in diamond subsurfaces. Applied Surface Science, 2004, 237, 483-488.	6.1	7
30	Origin of the unidentified positive mobile ions causing the bias temperature instability in SiC MOSFETs and their diffusion process. Applied Physics Express, 2016, 9, 064301.	2.4	7
31	First-principles study on adsorption structure and electronic state of stanene on Î±-alumina surface. Japanese Journal of Applied Physics, 2017, 56, 095701.	1.5	7
32	(Invited) First Principles and Themodynamical Studies on Matel Organic Vaper Phase Epitaxy of GaN. ECS Transactions, 2017, 80, 295-301.	0.5	7
33	First principles investigation of the unipolar resistive switching mechanism in an interfacial phase change memory based on a GeTe/Sb₂Te₃superlattice. Japanese Journal of Applied Physics, 2018, 57, 04FE08.	1.5	7
34	Single germanene phase formed by segregation through Al(111) thin films on Ge(111). 2D Materials, 2021, 8, 045039.	4.4	7
35	Electronic States Origin of Field Emission of Silicon Clusters. Japanese Journal of Applied Physics, 2003, 42, 6502-6503.	1.5	6
36	Morphology and Electronic Structure of Sn-Intercalated TiS2(0001) Layers. Journal of Physical Chemistry C, 2019, 123, 22293-22298.	3.1	6

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37	In-plane strain-free stanene on a <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:msub><mml:mi>Pd</mml:mi><mml:mn>2</mml:mn></mml:msub></mml:mrow></mml:math> surface alloy. Physical Review Materials, 2021, 5, .	2.4	6
38	Negative-charge-storing mechanism of potassium-ion SiO2-based electrets for vibration-powered generators. Applied Physics Letters, 2020, 117, .	3.3	5
39	Thermodynamic analysis of the gas phase reaction of Mg-doped GaN growth by HVPE using MgO. Japanese Journal of Applied Physics, 2020, 59, 088001.	1.5	5
40	Field emission and electronic structures of carbon allotropes. Thin Solid Films, 2004, 464-465, 354-359.	1.8	4
41	Origin of nanomechanical motion in a single-C<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mrow /><mml:mn>60</mml:mn></mml:msub></mml:math>transistor. Physical Review B, 2012, 85, .	3.2	4
42	A 50-nm 1.2-V Ge<inf>x</inf>Te<inf>1−x</inf>/Sb<inf>2</inf>Te<inf>3</inf> superlattice topological-switching random-access memory (TRAM). , 2015, , .		4
43	First Principles Study on the Strain Dependence of Thermal Oxidation and Hydrogen Annealing Effect at Si/SiO₂ Interface in V-MOSFET. ECS Transactions, 2016, 75, 293-299.	0.5	4
44	Theoretical study on the effect of H2 and NH3 on trimethylgallium decomposition process in GaN MOVPE. Japanese Journal of Applied Physics, 2021, 60, 045507.	1.5	4
45	Crystal structure change in multilayer GeH flakes by hydrogen desorption under ultrahigh vacuum environments. Japanese Journal of Applied Physics, 2022, 61, SC1048.	1.5	4
46	Effect of carbon atoms on the reliability of potassium-ion electrets used in vibration-powered generators. Japanese Journal of Applied Physics, 2022, 61, SH1013.	1.5	4
47	Understanding the switching mechanism of charge-injection GeTe/Sb<inf>2</inf>Te<inf>3</inf> phase change memory through electrical measurement and analysis of 1R test structure. , 2014, , .		3
48	Evaluation of energy band offset of Si1â^'xSnxsemiconductors by numerical calculation using density functional theory. Japanese Journal of Applied Physics, 2017, 56, 04CR10.	1.5	3
49	First-principles calculations of orientation dependence of Si thermal oxidation based on Si emission model. Japanese Journal of Applied Physics, 2018, 57, 04FB06.	1.5	3
50	First-Principles Calculation of Copper Oxide Superconductors That Supports the Kamimura-Suwa Model. Condensed Matter, 2020, 5, 69.	1.8	3
51	First principles investigation of SiC/AlGaN(0001) band offset. Journal of Crystal Growth, 2017, 468, 758-760.	1.5	2
52	Theoretical Study of the Electronic Structure of Threading Edge Dislocations in GaN. ECS Transactions, 2018, 86, 41-49.	0.5	2
53	Theoretical study of the atomistic behavior of O vacancy complexes with N and H atoms in the SiO2 layer of a metalâ€“oxideâ€“nitrideâ€“oxideâ€“semiconductor memory: Physical origin of the irreversible threshold voltage shift observed in metalâ€“oxideâ€“nitrideâ€“oxideâ€“semiconductor memories. Japanese Journal of Applied Physics, 2018, 57, 081101.	1.5	2
54	Nonadiabatic electromigration along a one-dimensional gold chain. Physical Review B, 2011, 84, .	3.2	1

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55	Physical Origin of Excellent Data Retention over 10years at sub-$mu mathrm{A}$ Operation in AgW-Alloy Ionic Memory. , 2019, , .		1
56	Theoretical studies on the switching mechanism of VMCO memories. Microelectronic Engineering, 2019, 215, 110997.	2.4	1
57	Electronic structure analysis of core structures of threading dislocations in GaN. , 2019, , .		1
58	Comparative Study of Time-Dependent and Scattering-State Ab Initio Calculations for Field Emission. E-Journal of Surface Science and Nanotechnology, 2005, 3, 457-460.	0.4	1
59	Ab initio study of field emission from atomic-scale surfaces. , 0, , .		0
60	Asymmetric behavior of current-induced magnetization switching in a magnetic tunnel junction: Non-equilibrium first-principles calculations. Applied Physics Express, 2014, 7, 045202.	2.4	0
61	XRD analysis of TRAM composed from [Sb2Te3/GeTe] superlattice film and its switching characteristics. Materials Research Society Symposia Proceedings, 2015, 1729, 41-45.	0.1	0
62	Defect formation in SiO<inf>2</inf> formed by thermal oxidation of SiC. , 2017, , .		0
63	Possibility of Metal-Oxide-Nitride-Oxide-Semiconductor Memories for Long Lifespan Archive Memories. IEICE Transactions on Electronics, 2017, E100.C, 928-933.	0.6	0
64	Accurate meso-scale dynamics by kinetic Monte Carlo simulation via free energy multicanonical sampling: oxygen vacancy diffusion in BaTiO3. Science and Technology of Advanced Materials Methods, 2021, 1, 109-122.	1.3	0
65	Investigation of Negative Charge Storage Mechanism in the Potassium Ion Electret by First-Principle Calculations. IEEJ Transactions on Sensors and Micromachines, 2021, 141, 292-298.	0.1	0