Masaaki Araidai

List of Publications by Year
in descending order

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	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
2	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
3	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
4	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
5	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>22</mml:mn></mml:msub></mml:mrow></mml:math> surface alloy. Physical Review Materials, 2021, 5, .	2.4	6
6	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
7	Single germanene phase formed by segregation through Al(111) thin films on Ge(111). 2D Materials, 2021, 8, 045039.	4.4	7
8	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
9	Negative-charge-storing mechanism of potassium-ion SiO2-based electrets for vibration-powered generators. Applied Physics Letters, 2020, 117, .	3.3	5
10	First-Principles Calculation of Copper Oxide Superconductors That Supports the Kamimura-Suwa Model. Condensed Matter, 2020, 5, 69.	1.8	3
11	Continuous Growth of Germanene and Stanene Lateral Heterostructures. Advanced Materials Interfaces, 2020, 7, 1902132.	3.7	24
12	Formation of ultrathin segregated-Ge crystal on Al/Ge(111) surface. Japanese Journal of Applied Physics, 2020, 59, SGGK15.	1.5	10
13	Epitaxial growth of honeycomb-like stanene on Au(111). Applied Surface Science, 2020, 517, 146224.	6.1	21
14	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
15	Physical Origin of Excellent Data Retention over 10years at sub-$mu mathrm{A}$ Operation in AgW-Alloy Ionic Memory. , 2019, , .		1
16	Morphology and Electronic Structure of Sn-Intercalated TiS2(0001) Layers. Journal of Physical Chemistry C, 2019, 123, 22293-22298.	3.1	6
17	Theoretical studies on the switching mechanism of VMCO memories. Microelectronic Engineering, 2019, 215, 110997.	2.4	1
18	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

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19	Electronic structure analysis of core structures of threading dislocations in GaN. , 2019, , .		1
20	Investigation of the GaN/Al₂O₃ Interface by First Principles Calculations. Physica Status Solidi (B): Basic Research, 2018, 255, 1700323.	1.5	14
21	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
22	Thermodynamic analysis of trimethylgallium decomposition during GaN metal organic vapor phase epitaxy. Japanese Journal of Applied Physics, 2018, 57, 04FJ03.	1.5	12
23	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
24	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
25	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
26	Theoretical Study of the Electronic Structure of Threading Edge Dislocations in GaN. ECS Transactions, 2018, 86, 41-49.	0.5	2
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	Germanene Epitaxial Growth by Segregation through Ag(111) Thin Films on Ge(111). ACS Nano, 2018, 12, 11632-11637.	14.6	109
29	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
30	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
31	First principles investigation of SiC/AlGaN(0001) band offset. Journal of Crystal Growth, 2017, 468, 758-760.	1.5	2
32	Edge states of hydrogen terminated monolayer materials: silicene, germanene and stanene ribbons. Journal of Physics Condensed Matter, 2017, 29, 115302.	1.8	22
33	Defect formation in SiO<inf>2</inf> formed by thermal oxidation of SiC. , 2017, , .		0
34	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
35	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
36	(Invited) First Principles and Themodynamical Studies on Matel Organic Vaper Phase Epitaxy of GaN. ECS Transactions, 2017, 80, 295-301.	0.5	7

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37	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
38	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
39	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
40	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
41	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
42	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
43	Density functional study for crystalline structures and electronic properties of Si1â^'xSnxbinary alloys. Japanese Journal of Applied Physics, 2016, 55, 08PE04.	1.5	16
44	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
45	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
46	GeTe sequences in superlattice phase change memories and their electrical characteristics. Applied Physics Letters, 2014, 104, .	3.3	57
47	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
48	First principles study of SiC/SiO<inf>2</inf> interfaces towards future power devices. , 2014, , .		12
49	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
50	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
51	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
52	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
53	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
54	Nonadiabatic electromigration along a one-dimensional gold chain. Physical Review B, 2011, 84, .	3.2	1

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55	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
56	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
57	Diffusion processes in single-atom electromigration along a gold chain: First-principles calculations. Physical Review B, 2009, 80, .	3.2	9
58	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
59	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
60	Field emission and electronic structures of carbon allotropes. Thin Solid Films, 2004, 464-465, 354-359.	1.8	4
61	Ab initio study of field emission from hydrogen defects in diamond subsurfaces. Applied Surface Science, 2004, 237, 483-488.	6.1	7
62	Field emission mechanisms of graphitic nanostructures. Physical Review B, 2004, 70, .	3.2	59
63	Field Emission of Diamond Surfaces by Time-Dependent Density-Functional Calculations. Japanese Journal of Applied Physics, 2003, 42, L666-L668.	1.5	8
64	Electronic States Origin of Field Emission of Silicon Clusters. Japanese Journal of Applied Physics, 2003, 42, 6502-6503.	1.5	6
65	Ab initio study of field emission from atomic-scale surfaces. , 0, , .		0