Koji Sueoka

List of Publications by Citations

89 papers	549 citations	13 h-index	20 g-index
93 ext. papers	608 ext. citations	2.1 avg, IF	3.95 L-index

#	Paper	IF	Citations
89	Density functional theory study on the impact of heavy doping on Si intrinsic point defect properties and implications for single crystal growth from a melt. *Journal of Applied Physics*, **2013**, 114, 153510	2.5	43
88	Ab initio study of vacancy and self-interstitial properties near single crystal silicon surfaces. *Journal of Applied Physics*, **2012**, 111, 083507	2.5	32
87	A study on density functional theory of the effect of pressure on the formation and migration enthalpies of intrinsic point defects in growing single crystal Si. *Journal of Applied Physics*, **2012**, 111, 093529	2.5	24
86	Theoretical study of the impact of stress on the behavior of intrinsic point defects in large-diameter defect-free Si crystals. *Journal of Crystal Growth*, **2013**, 363, 97-104	1.6	23
85	Defect Formation Behaviors in Heavily Doped Czochralski Silicon. *ECS Transactions*, **2006**, 2, 95-107	1	22
84	Silicon Single Crystal Growth from a Melt: On the Impact of Dopants on thev/GCriterion. *ECS Journal of Solid State Science and Technology*, **2013**, 2, P166-P179	2	20
83	Density functional theory calculations for estimation of gettering sites of C, H, intrinsic point defects and related complexes in Si wafers. *Materials Science in Semiconductor Processing*, **2016**, 44, 13-17	4.3	19
82	Formation Energy of Intrinsic Point Defects in Si and Ge and Implications for Ge Crystal Growth. *ECS Journal of Solid State Science and Technology*, **2013**, 2, P104-P109	2	19
81	Internal Gettering for Ni Contamination in Czochralski Silicon Wafers. *Journal of the Electrochemical Society*, **2000**, 147, 3074	3.9	18
80	First principles analysis of atomic configurations of group IV elements in Ge crystal for solar cells. *Physica Status Solidi C: Current Topics in Solid State Physics*, **2014**, 11, 1718-1721		16
79	Useful Database of Effective Gettering Sites for Metal Impurities in Si Wafers with First Principles Calculation. *ECS Journal of Solid State Science and Technology*, **2015**, 4, P351-P355	2	14
78	Growth Process of Polyhedral Oxide Precipitates in Czochralski Silicon Crystals Annealed at $bf 1100^{circ}C$. *Japanese Journal of Applied Physics*, **1994**, 33, L1507-L1510	1.4	14
77	Review Properties of Intrinsic Point Defects in Si and Ge Assessed by Density Functional Theory. *ECS Journal of Solid State Science and Technology*, **2016**, 5, P3176-P3195	2	13
76	Stress and doping impact on intrinsic point defect behavior in growing single crystal silicon. *Physica Status Solidi (B): Basic Research*, **2014**, 251, 2159-2168	1.3	12
75	Calculation of Size Distribution of Void Defects in CZ Silicon. *Journal of the Electrochemical Society*, **2003**, 150, G587	3.9	12
74	Analysis of Local Lattice Strain Around Oxygen Precipitates in Czochralski-Grown Silicon Wafers Using Convergent Beam Electron Diffraction. *Japanese Journal of Applied Physics*, **1999**, 38, 3440-3447	1.4	11
73	The Hakoniwa method, an approach to predict material properties based on statistical thermodynamics and ab initio calculations. *Materials Science in Semiconductor Processing*, **2016**, 43, 209-213	4.3	10

72	On intrinsic point defect cluster formation during Czochralski crystal growth. *Physica Status Solidi C: Current Topics in Solid State Physics*, **2009**, 6, 1906-1911		9
71	Surface-induced charge at a Ge (100) dimer surface and its interaction with vacancies and self-interstitials. *Journal of Applied Physics*, **2013**, 113, 093503	2.5	8
70	Computer Simulation of Concentration Distribution of Intrinsic Point Defect Valid for All Pulling Conditions in Large-Diameter Czochralski Si Crystal Growth. *ECS Journal of Solid State Science and Technology*, **2019**, 8, P228-P238	2	7
69	Ab initio analysis of a vacancy and a self-interstitial near single crystal silicon surfaces: Implications for intrinsic point defect incorporation during crystal growth from a melt. *Physica Status Solidi (A) Applications and Materials Science*, **2012**, 209, 1880-1883	1.6	7
68	First principles analysis on interaction between vacancy near surface and dimer structure of silicon crystal. *Journal of Applied Physics*, **2012**, 111, 013521	2.5	7
67	Recent Approach to Evaluation of Adhesion of Plated Films. *Hyomen Gijutsu/Journal of the Surface Finishing Society of Japan*, **2007**, 58, 280-280	0.1	7
66	Control of grown-in defects and oxygen precipitates in silicon wafers with DZ-IG structure by ultrahigh-temperature rapid thermal oxidation. *Journal of Applied Physics*, **2018**, 123, 161591	2.5	6
65	First Principles Calculation for Cu Gettering by Dopantor Dopant-Vacancy Complex in Silicon Crystal. *ECS Transactions*, **2006**, 2, 261-273	1	6
64	Impact of Anisotropic Thermal Stress on Behavior of Grown-In Defects during Si Crystal Growth from a Melt. *ECS Journal of Solid State Science and Technology*, **2016**, 5, P553-P555	2	5
63	Energy band structures of group IV compound semiconductors for solar cells. *Physica Status Solidi (B): Basic Research*, **2014**, 251, 2221-2224	1.3	5
62	Effect of dangling bonds of ultra-thin silicon film surface on electronic states of internal atoms. *Applied Surface Science*, **2012**, 258, 5265-5269	6.7	5
61	Impact of the Formation of Dimer Structures at the Surface on the Internal Atoms of Si Thin Film. *Journal of the Electrochemical Society*, **2010**, 157, H323	3.9	5
60	First-Principles Calculation on the Stable Structure and Adhesive Strength of Ni/Fe(100) or Cu/Fe(100) Interfaces. *Nippon Kinzoku Gakkaishi/Journal of the Japan Institute of Metals*, **2007**, 71, 1024-1031	0.4	5
59	Theoretical Study of Impact of Internal and External Stresses on Thermal Equilibrium Concentrations of Intrinsic Point Defects in Doped Si Crystals. *ECS Journal of Solid State Science and Technology*, **2017**, 6, P78-P99	2	4
58	Density Functional Theory Study on Formation Energy and Diffusion Path of Metal Atom near Dopant in Si Crystals. *ECS Journal of Solid State Science and Technology*, **2017**, 6, P125-P131	2	4
57	An atomistic picture of the diffusion of two vacancies forming a di-vacancy in Si. *Physica Status Solidi (B): Basic Research*, **2014**, 251, 2185-2188	1.3	4
56	A Statistical Model Describing Temperature Dependent Gettering of Cu in p-Type Si. *ECS Journal of Solid State Science and Technology*, **2015**, 4, P232-P235	2	4
55	Simulation of STM Images on a Flat Si (110)-(8×2) Surface Using Density Functional Theory. *Journal of the Electrochemical Society*, **2012**, 159, H201-H207	3.9	4

54	First-principles study on initial stage of oxidation on Si(110) surface. *Physica Status Solidi C: Current Topics in Solid State Physics*, **2011**, 8, 717-720		4
53	Gettering Sinks for Metallic Impurities Formed by Carbon-Cluster Ion Implantation in Epitaxial Silicon Wafers for CMOS Image Sensor. *IEEE Journal of the Electron Devices Society*, **2018**, 6, 1200-1206	2.3	4
52	Density functional theory study of stable configurations of substitutional and interstitial C and Sn atoms in Si and Ge crystals. *Journal of Crystal Growth*, **2017**, 463, 110-115	1.6	3
51	Estimation of the temperature dependent interaction between uncharged point defects in Si. *AIP Advances*, **2015**, 5, 017127	1.5	3
50	Stability of Excess Oxygen Atoms near Oxide Precipitate and Oxygen Solubility in Silicon Crystal. *ECS Journal of Solid State Science and Technology*, **2018**, 7, P102-P108	2	3
49	DFT study of the effect of hydrostatic pressure on formation and migration enthalpies of intrinsic point defects in single crystal Si. *Physica Status Solidi C: Current Topics in Solid State Physics*, **2012**, 9, 1947-1951		3
48	First Principles Calculation of the Mechanism of Oxygen Precipitation in Czochralski Silicon Crystals (Effects of Heavy Boron Doping). *Journal of Solid Mechanics and Materials Engineering*, **2007**, 1, 1165-1174		3
47	Oxygen Precipitation Behaviour and Internal Gettering in Epitaxial and Polished Czochralski Silicon Wafers. *Solid State Phenomena*, **1999**, 69-70, 63-72	0.4	3
46	Numerical analysis of effect of thermal stress depending on pulling rate on behavior of intrinsic point defects in large-diameter Si crystal grown by Czochralski method. *Journal of Crystal Growth*, **2020**, 531, 125334	1.6	3
45	First-principles calculation of atomic configurations of carbon and tin near the surface of a silicon thin film used for solar cells. *Materials Science in Semiconductor Processing*, **2017**, 63, 45-51	4.3	2
44	Theoretical study on Frenkel pair formation and recombination in single crystal silicon. *Journal of Crystal Growth*, **2019**, 520, 1-10	1.6	2
43	Struggle between inner atoms of ultra-thin silicon film and both its dimer surfaces. *Results in Physics*, **2012**, 2, 185-189	3.7	2
42	Molecular simulation on interfacial structure and gettering efficiency of direct silicon bonded (110)/(100) substrates. *Journal of Applied Physics*, **2010**, 107, 113509	2.5	2
41	Density Functional Theory Study on Stability of Fe, Cu, and Ni Atoms Near (001) Surface of Si Wafer. *ECS Journal of Solid State Science and Technology*, **2019**, 8, P573-P579	2	2
40	Density Functional Theory Calculations of Atomic Configurations and Bandgaps of C-, Ge-, and Sn-Doped Si Crystals for Solar Cells. *ECS Journal of Solid State Science and Technology*, **2017**, 6, P326-P331	2	1
39	Impacts of thermal stress and doping on intrinsic point defect properties and clustering during single crystal silicon and germanium growth from a melt. *Journal of Crystal Growth*, **2017**, 474, 96-103	1.6	1
38	Systematic Density Functional Theory Investigation of Stability of Dopant Atoms in Ge Ultra-Thin Film Grown on Si Substrate. *ECS Journal of Solid State Science and Technology*, **2017**, 6, P154-P160	2	1
37	Prediction of O Aggregation in Straight Line at High Temperature in Si Crystals: Thermal Donors Attaching to an Oxide Precipitate Surface. *ECS Journal of Solid State Science and Technology*, **2020**, 9, 054003	2	1

36	Effect of Oxygen Precipitation in Silicon Wafer on Electrical Characteristics of Fully Ion-Implanted n-Type PERT Solar Cells. *ECS Journal of Solid State Science and Technology*, **2019**, 8, P596-P601	2	1
35	Formation energy of intrinsic point defects in nanometer-thick Si and Ge foils and implications for Ge crystal growth from a melt. *Physica Status Solidi C: Current Topics in Solid State Physics*, **2014**, 11, 85-88		1
34	Intrinsic point defect behavior close to silicon melt/solid interface **2015**,		1
33	Atom probe tomography study on Ge1□□SnxCy hetero-epitaxial film on Ge substrates. *Thin Solid Films*, **2015**, 592, 54-58	2.2	1
32	First-Principles Calculation on Initial Stage of Oxidation of Si (110)-(1 □1) Surface. *Advances in Condensed Matter Physics*, **2011**, 2011, 1-5	1	1
31	A Comparison of Intrinsic Point Defect Properties in Si and Ge. *Materials Research Society Symposia Proceedings*, **2008**, 1070, 1		1
30	Ab Initio Analysis of Point Defects in Plane-Stressed Si Single Crystal. *Journal of Computational Science and Technology*, **2008**, 2, 478-487		1
29	Ab Initio Analysis on Stability of Carbon-Hydrogen Complex in Si Crystal under Compressive Stress along [110] Direction. *Nihon Kikai Gakkai Ronbunshu, A Hen/Transactions of the Japan Society of Mechanical Engineers, Part A*, **2006**, 72, 1200-1206		1
28	First Principle Calculations on Interaction between Cu Atom and Dopants in Silicon Crystal. *Nihon Kikai Gakkai Ronbunshu, A Hen/Transactions of the Japan Society of Mechanical Engineers, Part A*, **2005**, 71, 1103-1108		1
27	Preferential Growth Mode of Large-Sized Vacancy Clusters in Silicon: A Neural-Network Potential and First-Principles Study. *Journal of Physical Chemistry C*,	3.8	1
26	A statistical model for the gettering of impurities on an atomistic scale. *Physica Status Solidi C: Current Topics in Solid State Physics*, **2016**, 13, 746-749		1
25	Theoretical study of hydrogen impact on concentration of intrinsic point defects during Czochralski Si crystal growth. *Journal of Crystal Growth*, **2021**, 555, 125971	1.6	1
24	Differential clustering of self-interstitials during Si crystal growth. *Journal of Crystal Growth*, **2021**, 574, 126313	1.6	1
23	Novel Description of Oxidizing Reactions in SiO2/Si (100) Interface and Framework for Estimating Interface State Density. *ECS Journal of Solid State Science and Technology*, **2020**, 9, 024013	2	0
22	Unsteady numerical simulations considering effects of thermal stress and heavy doping on the behavior of intrinsic point defects in large-diameter Si crystal growing by Czochralski method. *Journal of Crystal Growth*, **2020**, 532, 125433	1.6	0
21	Density functional theory study on concentration of intrinsic point defects in growing N-doped Czochralski Si crystal. *Journal of Crystal Growth*, **2021**, 571, 126249	1.6	0
20	Atomic structures and stability of finite-size extended interstitial defects in silicon: Large-scale molecular simulations with a neural-network potential. *Scripta Materialia*, **2022**, 214, 114650	5.6	0
19	A Prediction for Adhesion Forces Between Resin/metal Interfaces Through the First Principles Calculation. *Journal of the Adhesion Society of Japan*, **2016**, 52, 287-292	0.1	

18	First principles analysis on the stability of C, Sn atoms near the surface of Ge thin film. *Transactions of the JSME (in Japanese)*, **2018**, 84, 17-00542-17-00542	0.2
17	Theoretical Study of the Impact of Substitutional Dopants and Thermal Stress on the Behavior of Intrinsic Point Defects in Growing Single Crystal Silicon. *Hyomen Kagaku*, **2016**, 37, 116-121	
16	Comment on "Investigations of interstitial generations near growth interface depending on crystal pulling rates during CZ silicon growth by detaching from the melt" by T. Abe et al. [J. Cryst. Growth 434 (2016) 128–137] and on "Observations of secondary defects and vacancies in CZ silicon crystals detached from melt using four different types of characterization techniques" by T. Abe et al. [J. Cryst. Growth 436 (2016) 23–31]. *Journal of Crystal Growth*, **2016**, 449, 163-165	1.6
15	Density Functional Theory Study of the Stress Impact on Formation Enthalpy of Intrinsic Point Defect around Dopant Atom in Ge Crystal. *ECS Journal of Solid State Science and Technology*, **2017**, 6, P383-P398	2
14	Theoretical Study of the Impact of Stress on the Behavior of Intrinsic Point Defects in Large-Diameter Defect-Free Si Crystals. *Solid State Phenomena*, **2013**, 205-206, 163-168	0.4
13	First-principles calculation on screw defects at Si(110)/(100) interface. *Physica Status Solidi C: Current Topics in Solid State Physics*, **2011**, 8, 690-693	
12	First Principles Analysis of Ultra-Thin Silicon Films with Dimer Structures. *Materials Research Society Symposia Proceedings*, **2011**, 1370, 89	
11	First Principles Analysis of Formation Energy of Point Defects and Voids in Silicon Crystals during the Cooling Process of Czochralski Method (Dopant Type and Concentration Dependence). *Journal of Solid Mechanics and Materials Engineering*, **2007**, 1, 1175-1185	
10	First Principles Calculation on Oxygen Precipitation Mechanism in Si Crystals (Effect of Heavy B-Doping on Oxygen Precipitation). *Nihon Kikai Gakkai Ronbunshu, A Hen/Transactions of the Japan Society of Mechanical Engineers, Part A*, **2006**, 72, 369-376	
9	First Principles Analysis on Formation Energy of Point Defects and Voids in Si Crystals during Cooling Process of Czochralski Method (Dopant Type and Concentration Dependence). *Nihon Kikai Gakkai Ronbunshu, A Hen/Transactions of the Japan Society of Mechanical Engineers, Part A*, **2006**, 72, 801-808	
8	125 First principles analysis on proximity gettering sites formed by C_3H_5 cluster ion implantations. *The Proceedings of the Computational Mechanics Conference*, **2015**, 2015.28, _125-1_-_125-2_	0
7	037 First Principles Analysis on Stability of Polyethylene on Metal Surface. *The Proceedings of the Computational Mechanics Conference*, **2015**, 2015.28, _037-1_-_037-3_	0
6	First principles calculation on distribution of vacancy near Si(100) surface area. *The Proceedings of the Computational Mechanics Conference*, **2016**, 2016.29, 4_100	0
5	Impurity Gettering used by Hakoniwa method in Si crystals. *The Proceedings of the Computational Mechanics Conference*, **2017**, 2017.30, 091	0
4	1407 First-Principles Calculation on Stable Site of Metal Impurities in Si and Ge crystals. *The Proceedings of the Computational Mechanics Conference*, **2011**, 2011.24, 467-468	0
3	1404 First Principles Analysis on Band Gap of Si Quantum Dots for Solar Cells. *The Proceedings of the Computational Mechanics Conference*, **2011**, 2011.24, 460-462	0
2	Effective gettering sites for metal impurities in Si wafers searched by first principles calculation. *The Proceedings of the Computational Mechanics Conference*, **2014**, 2014.27, 134-136	0
1	Theoretical study of stress impact on formation enthalpy and thermal equilibrium concentration of impurities and dopants in Si single crystal. *Journal of Crystal Growth*, **2021**, 572, 126284	1.6