Koji Sueoka

List of Publications by Year
in descending order

91 papers	655 citations	623188 14 h-index	676716 22 g-index
93 all docs	93 docs citations	93 times ranked	358 citing authors

#	Article	IF	Citations
1	On the solubility and diffusivity of the intrinsic point defects in germanium. Journal of Applied Physics, 2007, 101, 036103.	1.1	74
2	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, .	1.1	50
3	Ab initio study of vacancy and self-interstitial properties near single crystal silicon surfaces. Journal of Applied Physics, 2012, 111, .	1.1	33
4	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.	0.7	30
5	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, .	1.1	28
6	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.	0.9	24
7	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.	1.9	24
8	Internal Gettering for Ni Contamination in Czochralski Silicon Wafers. Journal of the Electrochemical Society, 2000, 147, 3074.	1.3	23
9	Defect Formation Behaviors in Heavily Doped Czochralski Silicon. ECS Transactions, 2006, 2, 95-107.	0.3	23
10	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.	0.9	19
11	Growth Process of Polyhedral Oxide Precipitates in Czochralski Silicon Crystals Annealed at $f 1100^{circ}C$. Japanese Journal of Applied Physics, 1994, 33, L1507-L1510.	0.8	17
12	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.	0.8	17
13	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.	0.9	16
14	Reviewâ€"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.	0.9	16
15	Stress and doping impact on intrinsic point defect behavior in growing single crystal silicon. Physica Status Solidi (B): Basic Research, 2014, 251, 2159-2168.	0.7	13
16	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.	0.8	12
17	Calculation of Size Distribution of Void Defects in CZ Silicon. Journal of the Electrochemical Society, 2003, 150, G587.	1.3	12
18	On intrinsic point defect cluster formation during Czochralski crystal growth. Physica Status Solidi C: Current Topics in Solid State Physics, 2009, 6, 1906-1911.	0.8	11

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19	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.	1.9	11
20	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.	0.9	11
21	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.	0.7	9
22	Surface-induced charge at a Ge (100) dimer surface and its interaction with vacancies and self-interstitials. Journal of Applied Physics, 2013, 113, .	1.1	8
23	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
24	First principles analysis on interaction between vacancy near surface and dimer structure of silicon crystal. Journal of Applied Physics, 2012, 111, 013521.	1.1	7
25	Effect of dangling bonds of ultra-thin silicon film surface on electronic states of internal atoms. Applied Surface Science, 2012, 258, 5265-5269.	3.1	7
26	Ab initio analysis of a vacancy and a selfâ€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.	0.8	7
27	First Principles Calculation for Cu Gettering by Dopantor Dopant-Vacancy Complex in Silicon Crystal. ECS Transactions, 2006, 2, 261-273.	0.3	6
28	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.	1.3	6
29	Energy band structures of group IV compound semiconductors for solar cells. Physica Status Solidi (B): Basic Research, 2014, 251, 2221-2224.	0.7	6
30	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.	0.9	6
31	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.	0.9	6
32	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.	1.1	6
33	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.	1.2	6
34	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.	0.2	5
35	Estimation of the temperature dependent interaction between uncharged point defects in Si. AIP Advances, 2015, 5, .	0.6	5
36	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.	0.9	5

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37	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.	0.9	5
38	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.	0.7	5
39	Oxygen Precipitation Behaviour and Internal Gettering in Epitaxial and Polished Czochralski Silicon Wafers. Solid State Phenomena, 1999, 69-70, 63-72.	0.3	4
40	Molecular simulation on interfacial structure and gettering efficiency of direct silicon bonded (110)/(100) substrates. Journal of Applied Physics, 2010, 107, 113509.	1.1	4
41	Firstâ€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.	0.8	4
42	Simulation of STM Images on a Flat Si (110)-(8Ã—2) Surface Using Density Functional Theory. Journal of the Electrochemical Society, 2012, 159, H201-H207.	1.3	4
43	An atomistic picture of the diffusion of two vacancies forming a diâ€vacancy in Si. Physica Status Solidi (B): Basic Research, 2014, 251, 2185-2188.	0.7	4
44	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.	0.9	4
45	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.	0.9	4
46	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.	0.5	3
47	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.	0.8	3
48	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.	0.7	3
49	Theoretical study on Frenkel pair formation and recombination in single crystal silicon. Journal of Crystal Growth, 2019, 520, 1-10.	0.7	3
50	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.	0.9	3
51	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.	0.9	3
52	Theoretical study of hydrogen impact on concentration of intrinsic point defects during Czochralski Si crystal growth. Journal of Crystal Growth, 2021, 555, 125971.	0.7	3
53	Preferential Growth Mode of Large-Sized Vacancy Clusters in Silicon: A Neural-Network Potential and First-Principles Study. Journal of Physical Chemistry C, 0, , .	1.5	3
54	Struggle between inner atoms of ultra-thin silicon film and both its dimer surfaces. Results in Physics, 2012, 2, 185-189.	2.0	2

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55	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.	1.9	2
56	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.	0.7	2
57	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.	0.9	2
58	Density functional theory study on concentration of intrinsic point defects in growing N-doped Czochralski Si crystal. Journal of Crystal Growth, 2021, 571, 126249.	0.7	2
59	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.	2.6	2
60	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.	0.2	1
61	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.	0.2	1
62	A Comparison of Intrinsic Point Defect Properties in Si and Ge. Materials Research Society Symposia Proceedings, 2008, 1070, 1.	0.1	1
63	Ab Initio Analysis of Point Defects in Plane-Stressed Si Single Crystal. Journal of Computational Science and Technology, 2008, 2, 478-487.	0.4	1
64	First-Principles Calculation on Initial Stage of Oxidation of Si (110)-(1 Ã— 1) Surface. Advances in Condensed Matter Physics, 2011, 2011, 1-5.	0.4	1
65	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.	0.8	1
66	Intrinsic point defect behavior close to silicon melt/solid interface. , 2015, , .		1
67	Atom probe tomography study on Ge1â^'xâ^'ySnxCy hetero-epitaxial film on Ge substrates. Thin Solid Films, 2015, 592, 54-58.	0.8	1
68	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.	0.8	1
69	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.	0.9	1
70	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.	0.9	1
71	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.	0.7	1
72	Differential clustering of self-interstitials during Si crystal growth. Journal of Crystal Growth, 2021, 574, 126313.	0.7	1

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73	Density Functional Theory Study on Anisotropic Arrangement of Interstitial Oxygen Atoms at (001) Interface of Oxide Precipitates in Si Crystal. ECS Journal of Solid State Science and Technology, 2021, 10, 123003.	0.9	1
74	First Principles Calculation on Oxygen Precipitation Mechanism in Si Crystals (Effect of Heavy) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 707 Society of Mechanical Engineers, Part A, 2006, 72, 369-376.	0.2	0
75	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.	0.2	0
76	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.	0.5	0
77	Firstâ€principles calculation on screw defects at Si(110)/(100) interface. Physica Status Solidi C: Current Topics in Solid State Physics, 2011, 8, 690-693.	0.8	0
78	First Principles Analysis of Ultra-Thin Silicon Films with Dimer Structures. Materials Research Society Symposia Proceedings, 2011, 1370, 89.	0.1	0
79	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.	0.3	0
80	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.	0.0	0
81	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.	0.0	0
82	Comment on â€œInvestigations of interstitial generations near growth interface depending on crystal pulling rates during CZ silicon growth by detaching from the meltâ€•by T. Abe et al. [J. Cryst. Growth 434 (2016) 128â€“137] and on â€œObservations of secondary defects and vacancies in CZ silicon crystals detached from melt using four different types of characterization techniqueâ€•by T. Abe et al. [J. Cryst. Growth 436 (2016) 23â€“33]. Journal of Crystal Growth, 2016, 449, 163-165.	0.7	0
83	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.	0.9	0
84	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.	0.1	0
85	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.	0.0	0
86	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.	0.0	0
87	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.	0.0	0
88	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_.	0.0	0
89	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_.	0.0	0
90	First principles calculation on distribution of vacancy near Si(100) surface area. The Proceedings of the Computational Mechanics Conference, 2016, 2016.29, 4_100.	0.0	0

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91	Impurity Gettering used by Hakoniwa method in Si crystals. The Proceedings of the Computational Mechanics Conference, 2017, 2017.30, 091.	0.0	0