## Koichi Kakimoto

List of Publications by Year in descending order

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#	Article	IF	CITATIONS
1	Numerical Analysis of Melt Flow and Interface Deflection during the Growth of Directional Solidified Multi-Crystalline Silicon Ingots of Three Different Dimension. Silicon, 2022, 14, 3049-3057.	1.8	4
2	Analysis of the Effect of Cusp‣haped Magnetic Fields on Heat, Mass, and Oxygen Transfer Using a Coupled 2D/3D Global Model. Crystal Research and Technology, 2022, 57, 2100092.	0.6	3
3	Numerical Analysis of Dislocation Density of SiC Crystals Tilted from [0001] Toward [12Â <sup>-</sup> 10]\$[ {1ar 210} ]\$ and [11Â <sup>-</sup> 00]\$[ {1ar 100} ]\$ Grown by Physical Vapor Transport. Crystal Research and Technology, 2022, 57, .	0.6	1
4	Oxygen and Nitrogen Transfer in Furnaces in Crystal Growth of Silicon by Czochralski and Directional Solidification Processes. Materials, 2022, 15, 1843.	1.3	0
5	Phase diagram of the Ag2SnS3–ZnS pseudobinary system for Ag2ZnSnS4 crystal growth. Journal of Crystal Growth, 2021, 555, 125967.	0.7	6
6	Carbon monoxide concentrations in a Czochralski growth furnace. Journal of Crystal Growth, 2021, 558, 126015.	0.7	1
7	Numerical Analysis of Phosphorus Concentration Distribution in a Silicon Crystal during Directional Solidification Process. Crystals, 2021, 11, 27.	1.0	2
8	3D numerical study of the asymmetric phenomenon in 200Âmm floating zone silicon crystal growth. Journal of Crystal Growth, 2020, 532, 125403.	0.7	3
9	Transient global modeling for the pulling process of Czochralski silicon crystal growth. II. Investigation on segregation of oxygen and carbon. Journal of Crystal Growth, 2020, 532, 125404.	0.7	5
10	Transient global modeling for the pulling process of Czochralski silicon crystal growth. I. Principles, formulation, and implementation of the model. Journal of Crystal Growth, 2020, 532, 125405.	0.7	5
11	Numerical investigation of floating zone silicon using Halbach array magnets. Journal of Crystal Growth, 2020, 546, 125773.	0.7	1
12	Dislocation Propagation in Si 300 mm Wafer during High Thermal Budget Process and Its Optimization. , 2020, , .		3
13	Absolute surface energies of oxygen-adsorbed GaN surfaces. Journal of Crystal Growth, 2020, 549, 125868.	0.7	10
14	Numerical analysis of dopant concentration in 200Âmm (8Âinch) floating zone silicon. Journal of Crystal Growth, 2020, 545, 125752.	0.7	4
15	3D Numerical Analysis of the Asymmetric Three-Phase Line of Floating Zone for Silicon Crystal Growth. Crystals, 2020, 10, 121.	1.0	2
16	Time-dependent behavior of melt flow in the industrial scale silicon Czochralski growth with a transverse magnetic field. Journal of Crystal Growth, 2019, 519, 77-83.	0.7	17
17	In-situ measurement of CO gas concentration in a Czochralski furnace of silicon crystals. Journal of Crystal Growth, 2019, 507, 154-156.	0.7	3
18	Carbon Impurity in Crystalline Silicon. , 2019, , 1-26.		0

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19	Carbon Impurity in Crystalline Silicon. , 2019, , 437-462.		ο
20	Relationship between carbon concentration and carrier lifetime in CZ-Si crystals. Journal of Crystal Growth, 2018, 486, 56-59.	0.7	7
21	Do thermal donors reduce the lifetimes of Czochralski-grown silicon crystals?. Journal of Crystal Growth, 2018, 489, 1-4.	0.7	3
22	Effect of oxygen on dislocation multiplication in silicon crystals. Journal of Crystal Growth, 2018, 486, 45-49.	0.7	4
23	First-principles study of polar, nonpolar, and semipolar GaN surfaces during oxide vapor phase epitaxy growth. Japanese Journal of Applied Physics, 2018, 57, 115504.	0.8	2
24	Numerical analyses and experimental validations on transport and control of carbon in Czochralski silicon crystal growth. Journal of Crystal Growth, 2018, 499, 8-12.	0.7	9
25	Relationship between Dislocation Density and Oxygen Concentration in Silicon Crystals during Directional Solidification. Crystals, 2018, 8, 244.	1.0	8
26	Chemical beam epitaxy of GaAs 1-x N x using MMHy and DMHy precursors, modeled by ab initio study of GaAs(100) surfaces stability over As 2 , H 2 and N 2. Journal of Crystal Growth, 2017, 468, 557-561.	0.7	0
27	Numerical analysis of the relation between dislocation density and residual strain in silicon ingots used in solar cells. Journal of Crystal Growth, 2017, 474, 130-134.	0.7	9
28	Firstâ€principles study of the surface phase diagrams of GaN(0001) and (000â^'1) under oxide vapor phase epitaxy growth conditions. Physica Status Solidi (B): Basic Research, 2017, 254, 1600706.	0.7	4
29	Reduction of carbon contamination during the melting process of Czochralski silicon crystal growth. Journal of Crystal Growth, 2017, 474, 3-7.	0.7	7
30	DFT modeling of carbon incorporation in GaN(0001) and GaN(0001Â <sup>-</sup> ) metalorganic vapor phase epitaxy. Applied Physics Letters, 2017, 111, .	1.5	19
31	Development of carbon transport and modeling in Czochralski silicon crystal growth. Crystal Research and Technology, 2017, 52, 1600221.	0.6	6
32	Effect of the packing structure of silicon chunks on the melting process and carbon reduction in Czochralski silicon crystal growth. Journal of Crystal Growth, 2017, 468, 595-600.	0.7	11
33	Recent Developments of Numerical Calculation in Crystal Growth of SiC. Journal of the Vacuum Society of Japan, 2017, 60, 313-320.	0.3	1
34	Modeling the Non-Equilibrium Process of the Chemical Adsorption of Ammonia on GaN(0001) Reconstructed Surfaces Based on Steepest-Entropy-Ascent Quantum Thermodynamics. Materials, 2017, 10, 948.	1.3	12
35	Dislocation behavior in seedâ€cast grown Si ingots based on crystallographic orientation. Progress in Photovoltaics: Research and Applications, 2016, 24, 1513-1522.	4.4	10
36	Growth of semiconductor silicon crystals. Progress in Crystal Growth and Characterization of Materials, 2016, 62, 273-285.	1.8	20

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37	Strain energy analysis of screw dislocations in 4H-SiC by molecular dynamics. Japanese Journal of Applied Physics, 2016, 55, 031301.	0.8	3
38	Total pressure ontrolled PVT SiC growth for polytype stability during using 2D nucleation theory. Crystal Research and Technology, 2016, 51, 344-348.	0.6	1
39	Control of extended defects in cast and seed cast Si ingots for photovoltaic application. Physica Status Solidi C: Current Topics in Solid State Physics, 2015, 12, 1094-1098.	0.8	0
40	Numerical investigation of carbon and silicon carbide contamination during the melting process of the Czochralski silicon crystal growth. Crystal Research and Technology, 2015, 50, 458-463.	0.6	8
41	Modeling grown-in dislocation multiplication on prismatic slip planes for GaN single crystals. Journal of Applied Physics, 2015, 117, 035701.	1.1	4
42	Numerical investigation of carbon contamination during the melting process of Czochralski silicon crystal growth. Journal of Crystal Growth, 2015, 417, 58-64.	0.7	26
43	Numerical Analysis of Impurities and Dislocations During Silicon Crystal Growth for Solar Cells. Lecture Notes in Physics, 2015, , 241-272.	0.3	2
44	Three-dimensional analysis of dislocation multiplication in single-crystal silicon under accurate control of cooling history of temperature. Journal of Crystal Growth, 2014, 396, 7-13.	0.7	21
45	Optimization of power control in the reduction of basal plane dislocations during PVT growth of 4H-SiC single crystals. Journal of Crystal Growth, 2014, 392, 92-97.	0.7	16
46	Dislocation-density-based modeling of the plastic behavior of 4H–SiC single crystals using the Alexander–Haasen model. Journal of Crystal Growth, 2014, 386, 215-219.	0.7	27
47	Effects of sodium on electrical properties in Cu2ZnSnS4 single crystal. Applied Physics Letters, 2014, 104, .	1.5	113
48	Three-Dimensional Modeling of Basal Plane Dislocations in 4H-SiC Single Crystals Grown by the Physical Vapor Transport Method. Crystal Growth and Design, 2014, 14, 1272-1278.	1.4	40
49	Study of the effect of doped impurities on polytype stability during PVT growth of SiC using 2D nucleation theory. Journal of Crystal Growth, 2014, 385, 95-99.	0.7	23
50	Role of the Surface N–H Molecular Layer in High Quality In-RICH InGaN Growth by MOVPE. Journal of Chemical Engineering of Japan, 2014, 47, 615-619.	0.3	0
51	Growth and characterization of Cu <sub>2</sub> ZnSnS <sub>4</sub> single crystals. Physica Status Solidi (A) Applications and Materials Science, 2013, 210, 1328-1331.	0.8	26
52	Correlation between intrinsic defects and electrical properties in the high-quality Cu2ZnSnS4 single crystal. Applied Physics Letters, 2013, 103, .	1.5	69
53	Evaluation of residual strain in directional solidified mono‣i ingots. Physica Status Solidi C: Current Topics in Solid State Physics, 2013, 10, 141-145.	0.8	15
54	Effect of Cooling Rate on the Activation of Slip Systems in Seed Cast-Grown Monocrystalline Silicon in the [001] and [111] Directions. Crystal Growth and Design, 2013, 13, 2661-2669.	1.4	26

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55	Relationship between oxygen impurity distribution in multicrystalline solar cell silicon and the use of top and side heaters during manufacture. Journal of Crystal Growth, 2013, 375, 62-66.	0.7	19
56	Reduction of Oxygen Impurity in Multicrystalline Silicon Production. International Journal of Photoenergy, 2013, 2013, 1-6.	1.4	12
57	Development of Crystal Growth Technique of Silicon by the Czochralski Method. Acta Physica Polonica A, 2013, 124, 227-230.	0.2	9
58	Numerical Analysis of the Dislocation Density in Multicrystalline Silicon for Solar Cells by the Vertical Bridgman Process. International Journal of Photoenergy, 2013, 2013, 1-8.	1.4	4
59	Analysis of Growth Velocity of SiÐ; Growth by the Physical Vapor Transport Method. Materials Science Forum, 2012, 717-720, 25-28.	0.3	2
60	Thermodynamical analysis of polytype stability during PVT growth of SiC using 2D nucleation theory. Journal of Crystal Growth, 2012, 352, 177-180.	0.7	19
61	Numerical analysis of the velocity of SiC growth by the top seeding method. Journal of Crystal Growth, 2012, 348, 71-74.	0.7	8
62	Influence of Back-Diffusion of Iron Impurity on Lifetime Distribution near the Seed-Crystal Interface in Seed Cast-Grown Monocrystalline Silicon by Numerical Modeling. Crystal Growth and Design, 2012, 12, 522-525.	1.4	34
63	Anisotropic Thermal Stress Simulation with Complex Crystal–Melt Interface Evolution for Seeded Growth of Monocrystalline Silicon. Crystal Growth and Design, 2012, 12, 5708-5714.	1.4	16
64	3D numerical analysis of the influence of material property of a crucible on stress and dislocation in multicrystalline silicon for solar cells. Journal of Crystal Growth, 2011, 318, 259-264.	0.7	16
65	Computer modeling of crystal growth of silicon for solar cells. Frontiers in Energy, 2011, 5, 305.	1.2	0
66	Reducing impurities of multicrystalline silicon in a unidirectional solidification furnace for solar cells. Jom, 2011, 63, 43-46.	0.9	20
67	Numerical analysis of light elements transport in a unidirectional solidification furnace. Physica Status Solidi C: Current Topics in Solid State Physics, 2011, 8, 659-661.	0.8	0
68	Calculation of phase diagrams of the Li3N-Al system for AlN growth. Physica Status Solidi C: Current Topics in Solid State Physics, 2011, 8, 1581-1584.	0.8	2
69	Effects of argon flow on heat transfer in a directional solidification process for silicon solar cells. Journal of Crystal Growth, 2011, 318, 298-303.	0.7	44
70	Influence of reaction between silica crucible and graphite susceptor on impurities of multicrystalline silicon in a unidirectional solidification furnace. Journal of Crystal Growth, 2011, 314, 239-245.	0.7	29
71	Thermodynamic analysis of SiC polytype growth by physical vapor transport method. Journal of Crystal Growth, 2011, 324, 78-81.	0.7	24
72	Gedanken experiment on point defects in unidirectional solidified single crystalline silicon with no dislocations. Journal of Crystal Growth, 2010, 312, 192-197.	0.7	1

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73	Analysis of SiC crystal sublimation growth by fully coupled compressible multi-phase flow simulation. Journal of Crystal Growth, 2010, 312, 3349-3355.	0.7	23
74	Three-dimensional global analysis of thermal stress and dislocations in a silicon ingot during a unidirectional solidification process with a square crucible. Journal of Crystal Growth, 2010, 312, 3261-3266.	0.7	26
75	Theoretical analyses of In incorporation and compositional instability in coherently grown InGaN thin films. Physica Status Solidi C: Current Topics in Solid State Physics, 2010, 7, 2249-2251.	0.8	18
76	Global Simulation of Coupled Carbon and Oxygen Transport in a Unidirectional Solidification Furnace for Solar Cells. Journal of the Electrochemical Society, 2010, 157, H153.	1.3	55
77	Crystal growth of semiconductor bulk crystals. , 2010, , .		0
78	1801 Dynamic simulation of defects in silicon crystals for PVs and LSIs. The Proceedings of the Computational Mechanics Conference, 2010, 2010.23, 642-643.	0.0	0
79	Crystallization of Silicon by a Directional Solidification Method. Advances in Materials Research, 2009, , 55-69.	0.2	2
80	Numerical Analysis of mc-Si Crystal Growth. Solid State Phenomena, 2009, 156-158, 193-198.	0.3	5
81	Modeling and simulation of Si crystal growth from melt. Physica Status Solidi C: Current Topics in Solid State Physics, 2009, 6, 645-652.	0.8	1
82	Influence of compositional changes of source materials on AlN synthesis using Li-Al-N solvent. Physica Status Solidi C: Current Topics in Solid State Physics, 2009, 6, S336-S339.	0.8	3
83	Possibility of AlN vapor phase epitaxy using Li <sub>3</sub> N as a nitrogen source. Physica Status Solidi C: Current Topics in Solid State Physics, 2009, 6, S340.	0.8	0
84	Numerical analysis of the formation of Si3N4 and Si2N2O during a directional solidification process in multicrystalline silicon for solar cells. Journal of Crystal Growth, 2009, 311, 2615-2620.	0.7	19
85	Analysis of local segregation of impurities at a silicon melt–crystal interface during crystal growth in transverse magnetic field-applied Czochralski method. Journal of Crystal Growth, 2009, 311, 2313-2316.	0.7	11
86	Numerical Investigation of the Influence of Material Property of a Crucible on Interface Shape in a Unidirectional Solidification Process. Crystal Growth and Design, 2009, 9, 267-272.	1.4	20
87	Crystal Growth from the Melt under External Force Fields. MRS Bulletin, 2009, 34, 251-258.	1.7	42
88	Effects of crystal rotation rate on the melt–crystal interface of a CZ-Si crystal growth in a transverse magnetic field. Journal of Crystal Growth, 2008, 310, 306-312.	0.7	33
89	Global analysis of GaN growth using a solution technique. Journal of Crystal Growth, 2008, 310, 1790-1793.	0.7	14
90	Carbon concentration and particle precipitation during directional solidification of multicrystalline silicon for solar cells. Journal of Crystal Growth, 2008, 310, 2192-2197.	0.7	94

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91	Analysis of oxygen incorporation in unidirectionally solidified multicrystalline silicon for solar cells. Journal of Crystal Growth, 2008, 310, 2204-2208.	0.7	49
92	Numerical analysis of influence of crucible shape on interface shape in a unidirectional solidification process. Journal of Crystal Growth, 2008, 310, 1142-1147.	0.7	32
93	Estimation of growth rate in unidirectionally solidified multicrystalline silicon by the growth-induced striation method. Journal of Crystal Growth, 2008, 310, 2697-2701.	0.7	11
94	Study on thermal stress in a silicon ingot during a unidirectional solidification process. Journal of Crystal Growth, 2008, 310, 4330-4335.	0.7	90
95	Thermodynamical analysis of oxygen incorporation from a quartz crucible during solidification of multicrystalline silicon for solar cell. Journal of Crystal Growth, 2008, 310, 4666-4671.	0.7	70
96	Directional Solidification of Multicrystalline Silicon Using the Accelerated Crucible Rotation Technique. Crystal Growth and Design, 2008, 8, 2525-2527.	1.4	8
97	Modeling of Magnetic Fields. AIP Conference Proceedings, 2007, , .	0.3	1
98	Numerical investigation of induction heating and heat transfer in a SiC growth system. Crystal Research and Technology, 2007, 42, 971-975.	0.6	14
99	Numerical investigation of crystal growth process of bulk Si and nitrides – a review. Crystal Research and Technology, 2007, 42, 1185-1189.	0.6	3
100	Investigation of oxygen distribution in electromagnetic CZ–Si melts with a transverse magnetic field using 3D global modeling. Journal of Crystal Growth, 2007, 299, 48-58.	0.7	38
101	Partly three-dimensional calculation of silicon Czochralski growth with a transverse magnetic field. Journal of Crystal Growth, 2007, 303, 135-140.	0.7	6
102	Three-dimensional global modeling of a unidirectional solidification furnace with square crucibles. Journal of Crystal Growth, 2007, 303, 165-169.	0.7	26
103	Molecular dynamics simulation of thermal conductivity of GaN/AlN quantum dot superlattices. Physica Status Solidi C: Current Topics in Solid State Physics, 2007, 4, 2289-2292.	0.8	5
104	Numerical study of the relationship between growth condition and atomic arrangement of InGaN. Physica Status Solidi (B): Basic Research, 2007, 244, 1784-1788.	0.7	1
105	534 Development and Stress Analysis of 3D-Mandibular Model with Dental Implants. The Proceedings of the Bioengineering Conference Annual Meeting of BED/JSME, 2007, 2006.19, 410-411.	0.0	0
106	Observation of Low-Temperature Elastic Softening due to Vacancy in Crystalline Silicon. Journal of the Physical Society of Japan, 2006, 75, 044602.	0.7	44
107	Thermodynamic stability of In1–x –yGax Aly N on GaN and InN. Physica Status Solidi C: Current Topics in Solid State Physics, 2006, 3, 1700-1703.	0.8	3
108	Investigation of thermal conductivity of nitride mixed crystals and superlattices by molecular dynamics. Physica Status Solidi C: Current Topics in Solid State Physics, 2006, 3, 1695-1699.	0.8	9

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109	Analysis of temperature and impurity distributions in a unidirectional-solidification process for multi-crystalline silicon of solar cells by a global model. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 2006, 134, 269-272.	1.7	20
110	Dynamic simulation of temperature and iron distributions in a casting process for crystalline silicon solar cells with a global model. Journal of Crystal Growth, 2006, 292, 515-518.	0.7	54
111	3D global analysis of CZ–Si growth in a transverse magnetic field with various crystal growth rates. Journal of Crystal Growth, 2005, 275, e1521-e1526.	0.7	16
112	Global analysis of effects of magnetic field configuration on melt–crystal interface shape and melt flow in CZ-Si crystal growth. Journal of Crystal Growth, 2005, 275, e2135-e2139.	0.7	14
113	An analysis of temperature distribution near the melt–crystal interface in silicon Czochralski growth with a transverse magnetic field. Journal of Crystal Growth, 2005, 282, 49-59.	0.7	35
114	Partly three-dimensional global modeling of a silicon Czochralski furnace. I. Principles, formulation and implementation of the model. International Journal of Heat and Mass Transfer, 2005, 48, 4481-4491.	2.5	109
115	Silicon crystal growth from the melt: Analysis from atomic and macro scales. Crystal Research and Technology, 2005, 40, 307-312.	0.6	Ο
116	3D global analysis of CZ-Si growth in a transverse magnetic field with rotating crucible and crystal. Crystal Research and Technology, 2005, 40, 347-351.	0.6	18
117	Partly three-dimensional global modeling of a silicon Czochralski furnace. II. Model application: Analysis of a silicon Czochralski furnace in a transverse magnetic field. International Journal of Heat and Mass Transfer, 2005, 48, 4492-4497.	2.5	39
118	Modeling of Fluid Dynamics in the Czochralski Growth of Semiconductor Crystals. , 2004, , 169-186.		3
119	Numerical analysis of continuous charge of lithium niobate in a double-crucible Czochralski system using the accelerated crucible rotation technique. Journal of Crystal Growth, 2004, 266, 109-116.	0.7	6
120	An investigation of thermal conductivity of silicon as a function of isotope concentration by molecular dynamics. Journal of Crystal Growth, 2004, 267, 452-457.	0.7	21
121	Isotope-concentration dependence of thermal conductivity of germanium investigated by molecular dynamics. Journal of Applied Physics, 2004, 95, 6200-6203.	1.1	6
122	Effects of shape of an inner crucible on convection of lithium niobate melt in a double-crucible Czochralski process using the accelerated crucible rotation technique. Journal of Crystal Growth, 2004, 267, 574-574.	0.7	0
123	An investigation of thermal conductivity of silicon as a function of isotope concentration by molecular dynamics. Journal of Crystal Growth, 2004, 267, 452-452.	0.7	2
124	Numerical study of the effects of cusp-shaped magnetic fields and thermal conductivity on the melt-crystal interface in CZ crystal growth. Crystal Research and Technology, 2003, 38, 716-725.	0.6	18
125	Active control of melt convection of silicon by electromagnetic force under cusp-shaped magnetic fields. Materials Science in Semiconductor Processing, 2002, 5, 341-345.	1.9	4
126	Mechanisms of heat and oxygen transfer in silicon melt in an electromagnetic Czochralski system. Journal of Crystal Growth, 2002, 243, 55-65.	0.7	21

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127	Effects of rotating magnetic fields on temperature and oxygen distributions in silicon melt. Journal of Crystal Growth, 2002, 237-239, 1785-1790.	0.7	23
128	Oxygen distribution in silicon melt under inhomogeneous transverse-magnetic fields. Journal of Crystal Growth, 2001, 230, 100-107.	0.7	30
129	An in-situ X-ray topography observation of dislocations, crystal–melt interface and melting of silicon. Microelectronic Engineering, 2001, 56, 143-146.	1.1	5
130	Oxygen distribution at a solid–liquid interface of silicon under transverse magnetic fields. Journal of Crystal Growth, 2000, 212, 429-437.	0.7	37
131	Heat and mass transfer during crystal growth. Computational Materials Science, 1998, 10, 127-133.	1.4	8
132	Oxygen transfer during single silicon crystal growth in Czochralski system with vertical magnetic fields. Journal of Crystal Growth, 1996, 163, 238-242.	0.7	53
133	Asymmetric Distribution of Oxygen Concentration in the Si Melt of a Czochralski System. Journal of the Electrochemical Society, 1996, 143, 722-725.	1.3	11
134	Spoke patterns on molten silicon in Czochralski system. Journal of Crystal Growth, 1994, 144, 20-28.	0.7	65
135	Numerical simulation of molten silicon flow; comparison with experiment. Journal of Crystal Growth, 1991, 114, 715-725.	0.7	37
136	Flow instability of molten silicon in the Czochralski configuration. Journal of Crystal Growth, 1990, 102, 16-20.	0.7	37