Koji Arafune

List of Publications by Year
in descending order

62 papers	1,096 citations	687363 13 h-index	414414 32 g-index
62 all docs	62 docs citations	62 times ranked	991 citing authors

#	Article	IF	Citations
1	Light trapping effect of submicron surface textures in crystalline Si solar cells. Progress in Photovoltaics: Research and Applications, 2007, 15, 415-423.	8.1	203
2	Antireflective subwavelength structures on crystalline Si fabricated using directly formed anodic porous alumina masks. Applied Physics Letters, 2006, 88, 201116.	3.3	146
3	Thermal and solutal Marangoni convection in Inâ€“Gaâ€“Sb system. Journal of Crystal Growth, 1999, 197, 811-817.	1.5	129
4	Wide-Angle Antireflection Effect of Subwavelength Structures for Solar Cells. Japanese Journal of Applied Physics, 2007, 46, 3333-3336.	1.5	90
5	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.	1.5	70
6	Directional solidification of polycrystalline silicon ingots by successive relaxation of supercooling method. Journal of Crystal Growth, 2007, 308, 5-9.	1.5	56
7	Analysis of oxygen incorporation in unidirectionally solidified multicrystalline silicon for solar cells. Journal of Crystal Growth, 2008, 310, 2204-2208.	1.5	49
8	In situReal-Time X-ray Reciprocal Space Mapping during InGaAs/GaAs Growth for Understanding Strain Relaxation Mechanisms. Applied Physics Express, 0, 2, 085501.	2.4	36
9	Interface engineering for the passivation of c-Si with O3-based atomic layer deposited AlOx for solar cell application. Applied Physics Letters, 2012, 100, .	3.3	29
10	Evaluation of defects generation in crystalline silicon ingot grown by cast technique with seed crystal for solar cells. Journal of Applied Physics, 2012, 111, 074505.	2.5	24
11	Investigation of Thermal Marangoni Convection in Low- and High-Prandtl-Number Fluids.. Journal of Chemical Engineering of Japan, 1999, 32, 104-109.	0.6	23
12	Study on Iron Distribution and Electrical Activities at Grain Boundaries in Polycrystalline Silicon Substrate for Solar Cells. Japanese Journal of Applied Physics, 2006, 45, 6153-6156.	1.5	23
13	Interaction between Metal Impurities and Small-Angle Grain Boundaries on Recombination Properties in Multicrystalline Silicon for Solar Cells. Applied Physics Express, 2012, 5, 042301.	2.4	23
14	Study of the Degradation of pâ€“n Diode Characteristics Caused by Small-Angle Grain Boundaries in Multi-Crystalline Silicon Substrate for Solar Cells. Japanese Journal of Applied Physics, 2009, 48, 121202.	1.5	15
15	Microscopic Distributions of Light Elements and Their Precipitates in Multicrystalline Silicon for Solar Cells. Japanese Journal of Applied Physics, 2010, 49, 110202.	1.5	14
16	Estimation of growth rate in unidirectionally solidified multicrystalline silicon by the growth-induced striation method. Journal of Crystal Growth, 2008, 310, 2697-2701.	1.5	11
17	Surface Recombination of Crystalline Silicon Substrates Passivated by Atomic-Layer-Deposited AlO$_{x}$. Japanese Journal of Applied Physics, 2012, 51, 04DP06.	1.5	11
18	Control of dipole properties in high-k and SiO2 stacks on Si substrates with tricolor superstructure. Applied Physics Letters, 2018, 113, .	3.3	10

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19	Use of ethanol with triolein for fatty acid ethyl ester as biodiesel fuel in a Novozym Â® 435 fixed-bed reactor. Biomass and Bioenergy, 2018, 108, 433-438.	5.7	9
20	Impact of Light-Element Impurities on Crystalline Defect Generation in Silicon Wafer. Japanese Journal of Applied Physics, 2012, 51, 02BP08.	1.5	9
21	EBIC imaging using scanning transmission electron microscopy: experiment and analysis. Journal of Materials Science: Materials in Electronics, 2008, 19, 324-327.	2.2	8
22	Directional Solidification of Multicrystalline Silicon Using the Accelerated Crucible Rotation Technique. Crystal Growth and Design, 2008, 8, 2525-2527.	3.0	8
23	Effect of crucible rotation on oxygen concentration during unidirectional solidification process of multicrystalline silicon for solar cells. Journal of Crystal Growth, 2009, 311, 1123-1128.	1.5	7
24	Impact of Light-Element Impurities on Crystalline Defect Generation in Silicon Wafer. Japanese Journal of Applied Physics, 2012, 51, 02BP08.	1.5	7
25	Anti-solvent crystallization of a ternary Lennardâ€“Jones mixture performed by molecular dynamics. Journal of Molecular Liquids, 2015, 209, 1-5.	4.9	7
26	Relationship between passivation properties and band alignment in O3-based atomic-layer-deposited AlOxon crystalline Si for photovoltaic applications. Japanese Journal of Applied Physics, 2015, 54, 08KD19.	1.5	6
27	Material Research on High-Quality Passivation Layers with Controlled Fixed Charge for Crystalline Silicon Solar Cells. Japanese Journal of Applied Physics, 2011, 50, 04DP09.	1.5	6
28	Evaluation of Multi-Crystalline Silicon Substrates for Solar Cells by Raman Spectroscopy. ECS Transactions, 2010, 25, 33-39.	0.5	5
29	Material Research on High-Quality Passivation Layers with Controlled Fixed Charge for Crystalline Silicon Solar Cells. Japanese Journal of Applied Physics, 2011, 50, 04DP09.	1.5	4
30	Combinatorial Synthesis Study of Passivation Layers for Solar Cell Applications. Materials Science Forum, 2012, 725, 161-164.	0.3	4
31	Nickel distribution and recombination activity in as-grown and annealed multicrystalline silicon. Japanese Journal of Applied Physics, 2014, 53, 04ER20.	1.5	4
32	Surface passivation of crystalline silicon by sputtered AlO_x/AlN_x stacks toward low-cost high-efficiency silicon solar cells. Japanese Journal of Applied Physics, 2015, 54, 08KD18.	1.5	4
33	Correlation between chemical-bonding states and fixed-charge states of Sr-silicate film on Si(100) substrate. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2016, 34, .	2.1	4
34	Purification of Phosphoric Acid by Adsorption-Assisted Crystallization. Kagaku Kogaku Ronbunshu, 2020, 46, 152-155.	0.3	4
35	Industrial Crystallization of Potassium Sulfate Using a Suspension Crystallizer: Inclusion of Mother Liquor and an Impurity Distribution Model. Journal of Chemical Engineering of Japan, 2022, 55, 188-192.	0.6	4
36	Numerical Analysis and Demonstration of Submicron Antireflective Textures for Crystalline Silicon Solar Cells. , 2006, , .		3

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37	Filtration of waste coolant from fixed-abrasive wire sawing and recycle of retrieved silicon powder for feedstock. , 2012, , .		3
38	Detailed study of the effects of interface properties of ozone-based atomic layer deposited AlO_x on the surface passivation of crystalline silicon. Japanese Journal of Applied Physics, 2014, 53, 04ER06.	1.5	3
39	Investigation of the static electric field effect of strontium silicate layers on silicon substrates. Journal of Applied Physics, 2017, 121, 225302.	2.5	3
40	Transesterification of Triolein and Methanol by Novozym 435 with Dimethyl Ether. Journal of Chemical Engineering of Japan, 2017, 50, 924-928.	0.6	3
41	Continuous Crystallization of Phosphoric Acid Using Suspension Crystallizer: Effect of Operating Conditions on Purity of Crystals. Crystal Research and Technology, 0, , 2100102.	1.3	3
42	Growth and characterization of n-type polycrystalline silicon ingots. Solar Energy Materials and Solar Cells, 2009, 93, 1047-1050.	6.2	2
43	Structural Change by Annealing Process at Î£9 Grain Boundaries in Multicrystalline Silicon Substrate for Solar Cells. Electrochemical and Solid-State Letters, 2010, 13, B79.	2.2	2
44	Room-temperature photoluminescence evaluation of small-angle grain boundaries in multicrystalline silicon. Japanese Journal of Applied Physics, 2014, 53, 112401.	1.5	2
45	Application of Industrial Crystallization Model for Chargeâ€“Discharge Cycle of Leadâ€“Acid Batteries at High Pressure. Journal of Chemical Engineering of Japan, 2015, 48, 815-820.	0.6	2
46	Passivation properties of aluminum oxide films deposited by mist chemical vapor deposition for solar cell applications. Japanese Journal of Applied Physics, 2015, 54, 08KD25.	1.5	2
47	Growth and Characterization of Multicrystalline Silicon Ingots Grown by Directional Solidification Technique. , 2006, , .		1
48	Impacts of Metal Impurities on Recombination Properties at Small Angle Grain Boundaries in Multicrystalline Silicon for Solar Cells. ECS Transactions, 2011, 41, 29-36.	0.5	1
49	Evaluation of Silicon Substrates Fabricated by Seeding Cast Technique. Materials Science Forum, 0, 725, 133-136.	0.3	1
50	Correlation between carbon incorporation and defect formation in quasi-single crystalline silicon. , 2012, , .		1
51	Structure Analyses of Room Temperature Deposited AlOxPassivation Films for Crystalline Silicon Solar Cells. Japanese Journal of Applied Physics, 2013, 52, 122303.	1.5	1
52	Effect of post-deposition annealing on electrical properties and structures of aluminum oxide passivation film on a crystalline silicon substrate. Japanese Journal of Applied Physics, 2019, 58, 125502.	1.5	1
53	Evaluation of Polycrystalline Silicon for Solar Cells by Small p-n Diode Array. Materials Research Society Symposia Proceedings, 2006, 974, 1.	0.1	0
54	Surface Passivation of Crystalline Silicon Solar Cells by Atmospheric Pressure Chemical Vapor Deposition. , 2006, , .		0

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55	Real-time study of strain relaxation in lattice-mismatched InGaAs/GaAs by x-ray diffraction. , 2009, , .		0
56	Measurement of strain distribution in multi-crystalline silicon substrates for solar cells using synchrotron radiation. , 2010, , .		0
57	Effect of initial oxidized layer condition on passivation quality of AlO<inf>x</inf> films deposited by atomic layer deposition technique at room temperature. , 2013, , .		0
58	Effects of stacking passivation structure with interface tuning layer for crystalline Si solar cell applications. , 2015, , .		0
59	Investigation of new stacking surface passivation structures with interfacial tuning layers on p-type crystalline silicon. Japanese Journal of Applied Physics, 2016, 55, 04ES03.	1.5	0
60	Room temperature formation of Hf-silicate layer by pulsed laser deposition with Hf-Si-O ternary reaction control. AIP Advances, 2016, 6, 105303.	1.3	0
61	Crystallizing Concentration of the Diatom <i>Chaetoceros gracilis</i> Cell Solutions. Kagaku Kogaku Ronbunshu, 2018, 44, 18-22.	0.3	0
62	Carrier injection behaviors from a band semiconductor to strongly correlated electron system in perovskite lanthanum vanadate/silicon junctions. Applied Physics Letters, 2022, 120, 232106.	3.3	0