Keiichiro Sakurai

List of Publications by Year
in descending order

74 papers	2,569 citations	201674 27 h-index	197818 49 g-index
75 all docs	75 docs citations	75 times ranked	3163 citing authors

#	Article	IF	Citations
1	Terawatt-scale photovoltaics: Transform global energy. Science, 2019, 364, 836-838.	12.6	320
2	Terawatt-scale photovoltaics: Trajectories and challenges. Science, 2017, 356, 141-143.	12.6	303
3	ZnO transparent conducting films deposited by pulsed laser deposition for solar cell applications. Thin Solid Films, 2003, 431-432, 369-372.	1.8	237
4	CIGS solar cell with MBE-grown ZnS buffer layer. Solar Energy Materials and Solar Cells, 2009, 93, 970-972.	6.2	130
5	Fabrication of wide-gap Cu(In1âˆ'xGax)Se2 thin film solar cells: a study on the correlation of cell performance with highly resistive i-ZnO layer thickness. Solar Energy Materials and Solar Cells, 2005, 87, 541-548.	6.2	108
6	Spatial composition fluctuations in blue-luminescent ZnCdO semiconductor films grown by molecular beam epitaxy. Journal of Crystal Growth, 2002, 237-239, 514-517.	1.5	80
7	Alkali incorporation control in Cu(In,Ga)Se2 thin films using silicate thin layers and applications in enhancing flexible solar cell efficiency. Applied Physics Letters, 2008, 93, .	3.3	71
8	In situ diagnostic methods for thin-film fabrication: utilization of heat radiation and light scattering. Progress in Photovoltaics: Research and Applications, 2004, 12, 219-234.	8.1	57
9	Improvement of ZnO TCO film growth for photovoltaic devices by reactive plasma deposition (RPD). Thin Solid Films, 2005, 480-481, 199-203.	1.8	57
10	Impact of the Ga concentration on the microstructure of CuIn_{1â€“<i>x</i>}Ga_{<i>x</i>}Se₂. Physica Status Solidi - Rapid Research Letters, 2008, 2, 135-137.	2.4	53
11	Development of high-efficiency flexible Cu(In,Ga)Se2 solar cells: A study of alkali doping effects on CIS, CIGS, and CGS using alkali-silicate glass thin layers. Current Applied Physics, 2010, 10, S154-S156.	2.4	53
12	Influence of grain boundaries on current collection in Cu(In,Ga)Se2 thin-film solar cells. Thin Solid Films, 2009, 517, 2554-2557.	1.8	50
13	Photoluminescence characterization of Zn1âˆ'xMgxO epitaxial thin films grown on ZnO by radical source molecular beam epitaxy. Applied Physics Letters, 2007, 90, 124104.	3.3	49
14	Excitation-Power Dependence of Free Exciton Photoluminescence of Semiconductors. Japanese Journal of Applied Physics, 2005, 44, 6113-6114.	1.5	48
15	Negative thermal quenching of photoluminescence in ZnO. Physica B: Condensed Matter, 2006, 376-377, 711-714.	2.7	46
16	Blue Photoluminescence from ZnCdO Films Grown by Molecular Beam Epitaxy. Japanese Journal of Applied Physics, 2000, 39, L1146-L1148.	1.5	44
17	Cu(In1âˆ'xGax)Se2 growth studies by in situ spectroscopic light scattering. Applied Physics Letters, 2003, 82, 2091-2093.	3.3	43
18	Characterization of interface nature and band alignment in CBD-CdS/Cu(In,Ga)Se2 bi-layer structure by photoemission and inverse photoemission spectroscopy. Thin Solid Films, 2005, 480-481, 183-187.	1.8	43

#	Article	IF	Citations
19	Effect of Se/(Ga+In) ratio on MBE grown Cu(In,Ga)Se2 thin film solar cell. Journal of Crystal Growth, 2009, 311, 2212-2214.	1.5	40
20	Effect of band offset on the open circuit voltage of heterojunction CuIn1â^'xGaxSe2 solar cells. Applied Physics Letters, 2004, 85, 5607-5609.	3.3	38
21	Temperature dependence of photocapacitance spectrum of CIGS thin-film solar cell. Thin Solid Films, 2009, 517, 2403-2406.	1.8	33
22	Growth of ZnO and device applications. Applied Surface Science, 2005, 244, 504-510.	6.1	32
23	Progress in the Efficiency of Wide-Gap Cu(In1-xGax)Se2Solar Cells Using CIGSe Layers Grown in Water Vapor. Japanese Journal of Applied Physics, 2005, 44, L679-L682.	1.5	32
24	Investigation of coevaporated Cu(In,Ga)Se2 thin films in highly efficient solar cell devices. Thin Solid Films, 2007, 515, 6217-6221.	1.8	32
25	Properties of CuInGaSe2 solar cells based upon an improved three-stage process. Thin Solid Films, 2003, 431-432, 6-10.	1.8	30
26	Growth of polycrystalline Cu(In,Ga)Se2 thin films using a radio frequency-cracked Se-radical beam source and application for photovoltaic devices. Applied Physics Letters, 2007, 91, .	3.3	29
27	Field testing of thermoplastic encapsulants in highâ€temperature installations. Energy Science and Engineering, 2015, 3, 565-580.	4.0	29
28	Effects of substrate offset angles on MBE growth of ZnO. Journal of Crystal Growth, 2000, 214-215, 92-94.	1.5	27
29	Doping properties of ZnO thin films for photovoltaic devices grown by URT-IP (ion plating) method. Thin Solid Films, 2004, 451-452, 219-223.	1.8	25
30	Effects of Mo back contact thickness on the properties of CIGS solar cells. Physica Status Solidi (A) Applications and Materials Science, 2009, 206, 1063-1066.	1.8	25
31	Effects of annealing under various atmospheres on electrical properties of Cu(In,Ga)Se2 films and CdS/Cu(In,Ga)Se2 heterostructures. Thin Solid Films, 2008, 516, 7036-7040.	1.8	24
32	Large grain Cu(In,Ga)Se2 thin film growth using a Se-radical beam source. Solar Energy Materials and Solar Cells, 2009, 93, 792-796.	6.2	24
33	Characterization of ZnO crystals by photoluminescence spectroscopy. Physica Status Solidi C: Current Topics in Solid State Physics, 2004, 1, 872-875.	0.8	22
34	Photoluminescence characterization of excitonic centers in ZnO epitaxial films. Applied Physics Letters, 2005, 86, 221907.	3.3	22
35	Junction formation of CuInSe2 with CdS: A comparative study of â€œdryâ€• and â€œwetâ€• interfaces. Thin Solid Films, 2007, 515, 6112-6118.	1.8	22
36	An option for the surface science on Cu chalcopyrites: the selenium capping and decapping process. Surface Science, 2004, 557, 263-268.	1.9	21

#	ARTICLE	IF	CITATIONS
37	In situ deposition rate monitoring during the three-stage-growth process of Cu(In,Ga)Se2 absorber films. Thin Solid Films, 2003, 431-432, 16-21.	1.8	18
38	Effect of Cu excess on three-stage CuGaSe2 thin films using in-situ process controls. Thin Solid Films, 2007, 515, 5862-5866.	1.8	18
39	Electrical Properties of (Ca,Sr)Bi4Ti4O15Thin Films Fabricated Using a Chemical Solution Deposition Method. Japanese Journal of Applied Physics, 2003, 42, 5990-5993.	1.5	15
40	SXPS investigation of the Cd partial electrolyte treatment of CuInSe2 absorbers. Thin Solid Films, 2005, 480-481, 218-223.	1.8	15
41	Evaluation of Dynamic Mechanical Loading as an accelerated test method for ribbon fatigue. , 2013, , .		15
42	Performance of CPV system using three types of III-V multi-junction solar cells. , 2012, , .		13
43	Multi angle laser light scattering evaluation of field exposed thermoplastic photovoltaic encapsulant materials. Energy Science and Engineering, 2016, 4, 40-51.	4.0	13
44	Electron beam probe quantization of compound composition: surface phases and surface roughness. Thin Solid Films, 2003, 431-432, 277-283.	1.8	12
45	Adjusting the sodium diffusion into CuInGaSe2 absorbers by preheating of Mo/SLG substrates. Journal of Physics and Chemistry of Solids, 2003, 64, 1877-1880.	4.0	12
46	Exploring suitable damp heat and potential induced degradation test procedures for Cu(In,Ga)(S,Se) photovoltaic modules. Japanese Journal of Applied Physics, 2018, 57, 08RG02.	1.5	12
47	Control of the thin film properties of Cu(In,Ga)Se2 using water vapor introduction during growth. Journal of Applied Physics, 2006, 100, 096106.	2.5	11
48	Photoluminescence Analysis of Proton Irradiation Effects in Cu(In,Ga)Se₂ Solar Cells. Japanese Journal of Applied Physics, 2008, 47, 857.	1.5	10
49	CIGS solar cell with CdS buffer layer deposited by ammoniaâ€free process. Physica Status Solidi (A) Applications and Materials Science, 2009, 206, 1072-1075.	1.8	10
50	Proton irradiation damages in CuInSe2 thin film solar cell materials by a piezoelectric photothermal spectroscopy. Solid-State Electronics, 2004, 48, 1815-1818.	1.4	9
51	Built-in Potential and Open Circuit Voltage of Heterojunction CuIn_{1-x}GaxSe₂ Solar Cells. Materials Research Society Symposia Proceedings, 2005, 865, 5191.	0.1	7
52	High sensitivity and wide bandwidth image sensor using CuIn1âˆ'xGaxSe2 thin films. Thin Solid Films, 2009, 517, 2392-2394.	1.8	7
53	Field experience and performance of CPV system in different climates. AIP Conference Proceedings, 2013, , .	0.4	7
54	Piezoelectric photothermal investigation of proton irradiation induced defects in CuInSe2 epitaxial films. Thin Solid Films, 2005, 480-481, 250-253.	1.8	6

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55	Crystallographic growth orientation of Cu(InGa)Se2films in relation to substrate material nature. Physica Status Solidi (A) Applications and Materials Science, 2006, 203, 2639-2643.	1.8	6
56	Structural changes of CIGS during deposition investigated by spectroscopic light scattering: A study on Ga concentration and Se pressure. Solar Energy Materials and Solar Cells, 2006, 90, 3377-3384.	6.2	6
57	Investigation of relation between Ga concentration and defect levels of Al/Cu(In,Ga)Se2 Schottky junctions using admittance spectroscopy. Thin Solid Films, 2007, 515, 6208-6211.	1.8	6
58	The chemical environment about Cd atoms in Cd chemical bath treated CuInSe2 and CuGaSe2. Journal of Physics and Chemistry of Solids, 2003, 64, 1733-1735.	4.0	5
59	A Study of the Diffusion and pn-Junction Formation in CIGS Solar Cells using EBIC and EDX Measurements. Materials Research Society Symposia Proceedings, 2005, 865, 631.	0.1	4
60	Effects of water vapor introduction during Cu(In1-xGax)Se2deposition on thin film properties and solar cell performance. Physica Status Solidi (A) Applications and Materials Science, 2006, 203, 2609-2614.	1.8	4
61	Proton-beam-induced defect levels in CuInSe2 thin-film absorbers: An investigation on nonradiative electron transitions. Applied Physics Letters, 2004, 85, 1347-1349.	3.3	3
62	Characteristics of scattered laser light signals from Cu(In,Ga)Se2 films. Thin Solid Films, 2007, 515, 6222-6225.	1.8	3
63	Proposed new damp heat test standards for commercial CIGS modules with bias application or light irradiation. Proceedings of SPIE, 2016, , .	0.8	3
64	Accelerated Outdoor PID Testing of CIGS Modules and Comparison with Indoor PID Tests. , 2018, , .		3
65	Structural changes of CuGaSe2 films during the three-stage process observed by spectroscopic light scattering. Thin Solid Films, 2005, 480-481, 367-372.	1.8	2
66	Study on electrical properties of Al/Cu(In,Ga)Se2 Schottky junction and ZnO/CdS/Cu(In,Ga)Se2 heterojunction using admittance spectroscopy. Physica Status Solidi C: Current Topics in Solid State Physics, 2006, 3, 2576-2580.	0.8	2
67	<i>In-situ</i> Characterization of As-grown Surface of CIGS Films. Materials Research Society Symposia Proceedings, 2007, 1012, 1.	0.1	2
68	Effects of light illumination during damp/dry heat tests on a flexible thin film photovoltaic module. Proceedings of SPIE, 2015, , .	0.8	2
69	Estimation and Correction Procedure for the Effects of Surface Roughness on Electron Probe Microanalysis. Japanese Journal of Applied Physics, 2003, 42, 5811-5812.	1.5	1
70	Japanese Task Group 8 activities in international PV module quality assurance. , 2014, , .		1
71	Development of a resistivity standard for polymeric materials used in photovoltaic modules. , 2015, , .		1
72	Effect of light irradiation and forward bias during PID tests of CIGS PV modules. , 2017, , .		1

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73	Photoluminescence recombination centers in ZnO. Physica Status Solidi C: Current Topics in Solid State Physics, 2006, 3, 1026-1029.	0.8	0
74	Study of Band Alignment at the Interface between CBD-CdS and CIGS grown by H2O-introduced co-evaporation. Materials Research Society Symposia Proceedings, 2007, 1012, 1.	0.1	0