Yasushi Shoji

List of Publications by Year
in descending order

70 papers	1,423 citations	516215 16 h-index	329751 37 g-index
70 all docs	70 docs citations	70 times ranked	1247 citing authors

#	Article	IF	Citations
1	Intermediate band solar cells: Recent progress and future directions. Applied Physics Reviews, 2015, 2, 021302.	5.5	314
2	Increase in photocurrent by optical transitions via intermediate quantum states in direct-doped InAs/GaNAs strain-compensated quantum dot solar cell. Journal of Applied Physics, 2011, 109, .	1.1	216
3	Material challenges for solar cells in the twenty-first century: directions in emerging technologies. Science and Technology of Advanced Materials, 2018, 19, 336-369.	2.8	162
4	Intermediate-band dynamics of quantum dots solar cell in concentrator photovoltaic modules. Scientific Reports, 2014, 4, 4792.	1.6	88
5	Intermediate Band Solar Cell with Extreme Broadband Spectrum Quantum Efficiency. Physical Review Letters, 2015, 114, 157701.	2.9	62
6	IIIâ€V//Si multijunction solar cells with 30% efficiency using smart stack technology with Pd nanoparticle array. Progress in Photovoltaics: Research and Applications, 2020, 28, 16-24.	4.4	43
7	Self-organized InGaAs/GaAs quantum dot arrays for use in high-efficiency intermediate-band solar cells. Journal Physics D: Applied Physics, 2013, 46, 024002.	1.3	42
8	Spectrally resolved intraband transitions on two-step photon absorption in InGaAs/GaAs quantum dot solar cell. Applied Physics Letters, 2014, 105, .	1.5	39
9	InAs/GaNAs strain-compensated quantum dots stacked up to 50 layers for use in high-efficiency solar cell. Physica E: Low-Dimensional Systems and Nanostructures, 2010, 42, 2757-2760.	1.3	36
10	Spectrally Resolved Interband and Intraband Transitions by Two-Step Photon Absorption in InGaAs/GaAs Quantum Dot Solar Cells. IEEE Journal of Photovoltaics, 2015, 5, 229-233.	1.5	28
11	Multi-stacked GaSb/GaAs type-II quantum nanostructures for application to intermediate band solar cells. AIP Advances, 2017, 7, .	0.6	27
12	Demonstration of the operation principles of intermediate band solar cells at room temperature. Solar Energy Materials and Solar Cells, 2016, 149, 15-18.	3.0	25
13	Effect of spacer layer thickness on multi-stacked InGaAs quantum dots grown on GaAs (311)B substrate for application to intermediate band solar cells. Journal of Applied Physics, 2012, 111, 074305.	1.1	23
14	IIIâ€V//Cu_{<i>x</i>}In_{1â^’<i>y</i>}Ga_{<i>y</i>}Se₂ multijunction solar cells with 27.2% efficiency fabricated using modified smart stack technology with Pd nanoparticle array and adhesive material. Progress in Photovoltaics: Research and Applications, 2021, 29, 887-898.	4.4	21
15	Enhancement of current collection in epitaxial lift-off InAs/GaAs quantum dot thin film solar cell and concentrated photovoltaic study. Applied Physics Letters, 2014, 105, 113904.	1.5	20
16	Voltage limitation analysis in strain-balanced InAs/GaAsN quantum dot solar cells applied to the intermediate band concept. Solar Energy Materials and Solar Cells, 2015, 132, 178-182.	3.0	19
17	Application of photoreflectance to advanced multilayer structures for photovoltaics. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 2013, 178, 599-608.	1.7	16
18	Ultrafast growth of InGaP solar cells via hydride vapor phase epitaxy. Applied Physics Express, 2019, 12, 052004.	1.1	15

#	Article	IF	Citations
19	Optical studies on InAs/InGaAs/GaNAs strain-compensated quantum dots grown on GaAs (001) by molecular beam epitaxy. Journal of Crystal Growth, 2009, 311, 1774-1777.	0.7	12
20	The effect of spacer layer thickness on vertical alignment of InGaAs/GaNAs quantum dots grown on GaAs(311)B substrate. Physica E: Low-Dimensional Systems and Nanostructures, 2010, 42, 2768-2771.	1.3	11
21	Growth of multi-stacked InAs/GaNAs quantum dots grown with As2 source in atomic hydrogen-assisted molecular beam epitaxy. Physica E: Low-Dimensional Systems and Nanostructures, 2010, 42, 2745-2748.	1.3	11
22	Recent progress on quantum dot intermediate band solar cells. IEICE Electronics Express, 2013, 10, 20132007-20132007.	0.3	11
23	Epitaxial Lift-Off of Single-Junction GaAs Solar Cells Grown Via Hydride Vapor Phase Epitaxy. IEEE Journal of Photovoltaics, 2021, 11, 93-98.	1.5	11
24	High Doping Performance of Sulfur and Zinc Dopants in Tunnel Diodes Using Hydride Vapor Phase Epitaxy. IEEE Journal of Photovoltaics, 2020, 10, 749-753.	1.5	10
25	Temperature Dependence of Carrier Extraction Processes in GaSb/AlGaAs Quantum Nanostructure Intermediate-Band Solar Cells. Nanomaterials, 2021, 11, 344.	1.9	10
26	28.3% Efficient IIIâ€"V Tandem Solar Cells Fabricated Using a Tripleâ€Chamber Hydride Vapor Phase Epitaxy System. Solar Rrl, 2022, 6, .	3.1	10
27	Structural properties of multi-stacked self-organized InGaAs quantum dots grown on GaAs (311)B substrate. Journal of Crystal Growth, 2010, 312, 226-230.	0.7	9
28	Optical properties of multi-stacked InGaAs/GaNAs quantum dot solar cell fabricated on GaAs (311)B substrate. Journal of Applied Physics, 2012, 112, 064314.	1.1	9
29	Photoabsorption improvement in multi-stacked InGaAs/GaAs quantum dot solar cell with a light scattering rear texture. Solar Energy Materials and Solar Cells, 2020, 204, 110216.	3.0	9
30	Fabrication of 100 layer-stacked InAs/GaNAs strain-compensated quantum dots on GaAs (001) for application to intermediate band solar cell. , 2010, , .		8
31	Multi-stacked InAs/GaNAs quantum dots with direct Si doping for use in intermediate band solar cell. , 2010, , .		8
32	Pd-mediated mechanical stack of IIIâ€"V solar cells fabricated via hydride vapor phase epitaxy. Solar Energy, 2021, 224, 142-148.	2.9	8
33	The effect of concentration on the performance of quantum dot intermediate-band solar cells. , 2012, , .		7
34	Molecular beam epitaxial growth of intermediate-band materials based on GaAs:N Î´-doped superlattices. Japanese Journal of Applied Physics, 2015, 54, 08KA07.	0.8	7
35	Quantitative optical measurement of chemical potentials in intermediate band solar cells. Journal of Photonics for Energy, 2015, 5, 053092.	0.8	7
36	InGaP/GaAs dualâ€junction solar cells with AlInGaP passivation layer grown by hydride vapor phase epitaxy. Progress in Photovoltaics: Research and Applications, 2021, 29, 1285-1293.	4.4	7

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37	Control of intermediate-band configuration in GaAs:N Î´-doped superlattice. Japanese Journal of Applied Physics, 2015, 54, 08KA04.	0.8	6
38	Multiple epitaxial lift-off of stacked GaAs solar cells for low-cost photovoltaic applications. Japanese Journal of Applied Physics, 2020, 59, 052003.	0.8	6
39	Growth of InGaAs/GaNAs strain-compensated quantum dot superlattice on GaAs (311)B by molecular beam epitaxy. Journal of Crystal Growth, 2009, 311, 1770-1773.	0.7	5
40	Evaluation of GaAs solar cells grown under different conditions via hydride vapor phase epitaxy. Journal of Crystal Growth, 2020, 537, 125600.	0.7	5
41	GaAs//CuIn_{1âˆ’y}Ga_ySe₂ Three-Junction Solar Cells With 28.06% Efficiency Fabricated Using a Bonding Technique Involving Pd Nanoparticles and an Adhesive. IEEE Journal of Photovoltaics, 2022, 12, 639-645.	1.5	5
42	InGaAs/GaAsSb type-II quantum dots for intermediate band solar cell. , 2012, , .		4
43	Effect of external bias on multi-stacked InAs/AlGaAs quantum dots solar cell. , 2014, , .		4
44	Universal linear relationship on two-step photon absorption processes in In(Ga)As quantum dot solar cells. , 2016, , .		3
45	Analysis of subcell open-circuit voltages of InGaP/GaAs dual-junction solar cells fabricated using hydride vapor phase epitaxy. Japanese Journal of Applied Physics, 2020, 59, SGGF02.	0.8	3
46	Multi-stacked InGaAs/GaNAs quantum dot solar cell fabricated on GaAs (311)B substrate. , 2010, , .		2
47	InGaAs quantum dot solar cells with high energygap matrix layers. , 2013, , .		2
48	Extreme broadband photocurrent spectroscopy on InAs quantum dot solar cells. , 2015, , .		2
49	Cesium lead halide perovskite quantum dot deposition on GaAs substrates by dip coating. , 2018, , .		2
50	High-Efficiency InAs-InGaAs Quantum Dash Solar Cells Developed Through Current Constraint Engineering. , 2019, , .		2
51	Effects of growth interruption on InGaP fabricated via hydride vapor phase epitaxy. Journal of Crystal Growth, 2020, 544, 125712.	0.7	2
52	Quasi-Fermi level splitting in InAs quantum-dot solar cells from photoluminescence measurements. , 2020, , .		2
53	Current enhancement in direct-doped InAs/GaNAs strain-compensated quantum dot solar cell. , 2011, , .		1
54	Enhancement of current collection in epitaxial lift-off InAs/GaAs quantum dot thin film solar cell and concentrated photovoltaic study. , 2014, , .		1

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55	Study of phonons in self-assembled InAs quantum dots embedded in an InGaAlAs matrix. Physica E: Low-Dimensional Systems and Nanostructures, 2014, 57, 1-5.	1.3	1
56	Design optimization for two-step photon absorption in quantum dot solar cells by using infrared photocurrent spectroscopy. Proceedings of SPIE, 2016, , .	0.8	1
57	High density quantum dot solar cells for concentrating photovoltaics (CPV). , 2017, , .		1
58	Type-II Quantum Dots for Application to Photon Ratchet Intermediate Band Solar Cells. , 2017, , .		1
59	Luminescence effects on subcell currentâ€“voltage analysis in InGaP/GaAs tandem solar cells. Journal of Photonics for Energy, 2020, 10, 1.	0.8	1
60	Evaluation of multi-stacked InAs/GaNAs self-assembled quantum dots on GaAs (001) grown using different As species. Journal of Crystal Growth, 2011, 323, 158-160.	0.7	0
61	Fabrication of broadband antireflection structures on glass substrates by Reactive Ion Etching for application on homogenizers in CPV systems. , 2013, , .		0
62	InGaAs/GaAsSb type-II quantum dots for intermediate band solar cell. , 2013, , .		0
63	Local conductivity characteristics of individual ErAs island for solar cell tunnel junction application. , 2014, , .		0
64	InAs/InAlAsSb quantum nanostructures grown on InP substrate for intermediate band solar cell application. , 2016, , .		0
65	InGaAs/AlGaAs Quantum Dot Intermediate Band Solar Cells Fabricated on GaAs (311)B Substrate. , 2017, , .		0
66	Semiconductor quantum dot solar cells. Frontiers of Nanoscience, 2021, , 319-352.	0.3	0
67	Efficient Two-Step Photon Absorption in Type-II GaSb Quantum Dot Solar Cells. , 2017, , .		0
68	Quantitative analysis of InAs quantum dot solar cells by photoluminescence spectroscopy. , 2018, , .		0
69	Quantum Dot Solar Cells. Advances in Chemical and Materials Engineering Book Series, 0, , 163-187.	0.2	0
70	Quantum Dot Solar Cells. , 0, , 406-429.		0