Masafumi Yamaguchi

List of Publications by Year
in descending order

103 papers	4,014 citations	136940 32 h-index	123420 61 g-index
103 all docs	103 docs citations	103 times ranked	2654 citing authors

#	Article	IF	Citations
1	Development of Highâ€Efficiency Solar Cell Modules for Photovoltaicâ€Powered Vehicles. Solar Rrl, 2022, 6, 2100429.	5.8	12
2	Analysis for efficiency potential of IIâ€"VI compound, chalcopyrite, and kesterite-based tandem solar cells. Journal of Materials Research, 2022, 37, 445-456.	2.6	9
3	Impact of climatic conditions on prospects for integrated photovoltaics in electric vehicles. Renewable and Sustainable Energy Reviews, 2022, 158, 112109.	16.4	26
4	Impact and recent approaches of high-efficiency solar cell modules for PV-powered vehicles. Japanese Journal of Applied Physics, 2022, 61, SC0802.	1.5	7
5	Loss Analysis of High-Efficiency Perovskite/Si Tandem Solar Cells for Large Market Applications. Energy and Power Engineering, 2022, 14, 167-180.	0.8	1
6	Development of highâ€efficiency and lowâ€cost solar cells for PVâ€powered vehicles application. Progress in Photovoltaics: Research and Applications, 2021, 29, 684-693.	8.1	48
7	Analysis for nonradiative recombination loss and radiation degradation of Si space solar cells. Progress in Photovoltaics: Research and Applications, 2021, 29, 98-108.	8.1	5
8	Analysis for non-radiative recombination and resistance loss in chalcopyrite and kesterite solar cells. Japanese Journal of Applied Physics, 2021, 60, SBBF05.	1.5	7
9	Stretchable micro-scale concentrator photovoltaic module with 15.4% efficiency for three-dimensional curved surfaces. Communications Materials, 2021, 2, .	6.9	12
10	Importance of Developing Photovoltaics-Powered Vehicles. Energy and Power Engineering, 2021, 13, 147-162.	0.8	16
11	Low-temperature direct growth for low dislocation density in III-V on Si towards high-efficiency III-V/Si tandem solar cells. Japanese Journal of Applied Physics, 2021, 60, SBBF14.	1.5	3
12	Defect analysis of crystalline Si solar cells by learning radiation-induced defects in Si. MRS Communications, 2021, 11, 272-277.	1.8	0
13	Multi-junction solar cells paving the way for super high-efficiency. Journal of Applied Physics, 2021, 129, .	2.5	89
14	Potential of Si Tandem Solar Cell Modules for PV-Powered Vehicles. , 2021, , .		2
15	Analysis of temperature coefficients and their effect on efficiency of solar cell modules for photovoltaics-powered vehicles. Journal Physics D: Applied Physics, 2021, 54, 504002.	2.8	9
16	Approaches for High-Efficiency III-V/Si Tandem Solar Cells. Energy and Power Engineering, 2021, 13, 413-427.	0.8	7
17	How did the knowledge of CPV contribute to the standardization activity of VIPV?. AIP Conference Proceedings, 2020, , .	0.4	2
18	Super-multi-junction solar cells - Device configuration with the potential for more than 50% annual energy conversion efficiency (CPV). AIP Conference Proceedings, 2020, , .	0.4	1

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19	Nearly 30%-efficient low-concentration static photovoltaic modules with IMM triple-junction solar cells. Applied Physics Express, 2020, 13, 077001.	2.4	2
20	The Outdoor Field Test and Energy Yield Model of the Four-Terminal on Si Tandem PV Module. Applied Sciences (Switzerland), 2020, 10, 2529.	2.5	5
21	Overview of Si Tandem Solar Cells and Approaches to PV-Powered Vehicle Applications. MRS Advances, 2020, 5, 441-450.	0.9	11
22	Measurement and Modeling of 3D Solar Irradiance for Vehicle-Integrated Photovoltaic. Applied Sciences (Switzerland), 2020, 10, 872.	2.5	40
23	Role of PV-Powered Vehicles in Low-Carbon Society and Some Approaches of High-Efficiency Solar Cell Modules for Cars. Energy and Power Engineering, 2020, 12, 375-395.	0.8	28
24	Importance of Developing High-Efficiency Solar Cells for PV-Powered Vehicles. , 2020, , .		0
25	Why and how does car-roof PV create 50 GW/year of new installations? Also, why is a static CPV suitable to this application?. AIP Conference Proceedings, 2019, , .	0.4	8
26	Super-Multi-Junction Solar Cellsâ€"Device Configuration with the Potential for More Than 50% Annual Energy Conversion Efficiency (Non-Concentration). Applied Sciences (Switzerland), 2019, 9, 4598.	2.5	10
27	Improvement of the spectral sensitivity of CPV by enhancing luminescence coupling and fine-tuning to the bottom-bandgap matched to local atmospheric conditions. AIP Conference Proceedings, 2019, , .	0.4	4
28	Impact of Nonplanar Panels on Photovoltaic Power Generation in the Case of Vehicles. IEEE Journal of Photovoltaics, 2019, 9, 1721-1726.	2.5	24
29	Analysis of nonradiative recombination in quantum dot solar cells and materials. Progress in Photovoltaics: Research and Applications, 2019, 27, 971-977.	8.1	14
30	Design of lowâ€concentration static IIIâ€V/Si partial CPV module with 27.3% annual efficiency for carâ€roof application. Progress in Photovoltaics: Research and Applications, 2019, 27, 501-510.	8.1	24
31	A mobile multipyranometer array for the assessment of solar irradiance incident on a photovoltaic-powered vehicle. Solar Energy, 2019, 184, 84-90.	6.1	28
32	Curve Correction of the Energy Yield by Flexible Photovoltaics for VIPV and BIPV Applications Using a Simple Correction Factor. , 2019, , .		6
33	Proposals for Accelerating Photovoltaics Installations in Japan and Further Developments of Science and Technologies of Photovoltaics. , 2019, , .		0
34	Modeling and Standardization Researches and Discussions of the Car-roof PV through International Web Meetings. , 2019, , .		4
35	Analysis for Radiation Degradation of Advanced Si Space Solar Cells. , 2019, , .		3
36	Design and Evaluation of a IIIâ€"V/Si Partial CPV Module for Maximization of Power Generation per Unit Module Area. IEEE Journal of Photovoltaics, 2019, 9, 147-153.	2.5	19

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37	Concentrated Solar Cells. , 2019, , 1-34.		1
38	Analysis of future generation solar cells and materials. Japanese Journal of Applied Physics, 2018, 57, 04FS03.	1.5	20
39	A review of recent progress in heterogeneous silicon tandem solar cells. Journal Physics D: Applied Physics, 2018, 51, 133002.	2.8	103
40	Analysis for efficiency potential of highâ€efficiency and nextâ€generation solar cells. Progress in Photovoltaics: Research and Applications, 2018, 26, 543-552.	8.1	49
41	Curve-Correction Factor for Characterization of the Output of a Three-Dimensional Curved Photovoltaic Module on a Car Roof. Coatings, 2018, 8, 432.	2.6	27
42	Design and Evaluation of Low-concentration Static III-V/Si Partial CPV Module for Car-rooftop Application. , 2018, , .		8
43	Evaluation and optimization of coating for wide acceptance angle concentrator photovoltaic module. Japanese Journal of Applied Physics, 2018, 57, 08RD02.	1.5	1
44	To Do List for Research and Development and International Standardization to Achieve the Goal of Running a Majority of Electric Vehicles on Solar Energy. Coatings, 2018, 8, 251.	2.6	65
45	Analysis for efficiency potential of crystalline Si solar cells. Journal of Materials Research, 2018, 33, 2621-2626.	2.6	11
46	GaAs/Indium Tin Oxide/Si Bonding Junctions for III-V-on-Si Hybrid Multijunction Cells With Low Series Resistance. IEEE Journal of Photovoltaics, 2018, , 1-8.	2.5	12
47	Opportunities for breaking an energy generation limit of photovoltaic using multijunction and super-multijunction cells. , 2018, , .		5
48	Static concentrator photovoltaics for automotive applications. Solar Energy, 2017, 146, 523-531.	6.1	95
49	Efficiency potential and recent activities of high-efficiency solar cells. Journal of Materials Research, 2017, 32, 3445-3457.	2.6	47
50	111 sun concentrator photovoltaic module with wide acceptance angle that can efficiently operate using 30-min intermittent tracking system. Japanese Journal of Applied Physics, 2017, 56, 092301.	1.5	3
51	Estimation of conversion efficiency for partially static concentrator with III-V on Si solar cell. AIP Conference Proceedings, 2017, , .	0.4	5
52	Towards creation of mobility society using solar energy. , 2017, , .		6
53	Effect of substrate orientation on strain relaxation mechanisms of InGaAs layer grown on vicinal GaAs substrates measured by in situ X-ray diffraction. Japanese Journal of Applied Physics, 2017, 56, 08MA06.	1.5	1
54	Design and Evaluation of Partial Concentration III-V/Si Module with Enhanced Diffuse Sunlight Transmission. , 2017, , .		3

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55	Recent results for concentrator photovoltaics in Japan. Japanese Journal of Applied Physics, 2016, 55, 04EA05.	1.5	18
56	Assessing material qualities and efficiency limits of III-V on silicon solar cells using external radiative efficiency. Progress in Photovoltaics: Research and Applications, 2016, 24, 1310-1318.	8.1	18
57	Possibility of static low concentrator PV optimized for vehicle installation. AIP Conference Proceedings, 2016, , .	0.4	19
58	Next environment-friendly cars: Application of solar power as automobile energy source. , 2016, , .		17
59	Potential and Activities of III-V/Si Tandem Solar Cells. ECS Journal of Solid State Science and Technology, 2016, 5, Q68-Q73.	1.8	16
60	Fundamentals and R&D status of IIIâ€V compound solar cells and materials. Physica Status Solidi C: Current Topics in Solid State Physics, 2015, 12, 489-499.	0.8	22
61	Validation of energy prediction method for a concentrator photovoltaic module in Toyohashi Japan. Progress in Photovoltaics: Research and Applications, 2013, 21, 1598-1610.	8.1	56
62	Recent Results of Europe-Japan Collaborative Research on Concentrator Photovoltaics. Energy Procedia, 2013, 33, 173-178.	1.8	1
63	Japanese R&D Activities of High Efficiency III-V Compound Multi-Junction and Concentrator Solar Cells. Energy Procedia, 2012, 15, 265-274.	1.8	23
64	Present and Future of High Efficiency Multi-Junction Solar Cells. , 2011, , .		3
65	Low temperature growth GaAs on GE by chemical beam epitaxy. , 2010, , .		1
66	Novel materials for high-efficiency IIIâ€"V multi-junction solar cells. Solar Energy, 2008, 82, 173-180.	6.1	143
67	Directional solidification of polycrystalline silicon ingots by successive relaxation of supercooling method. Journal of Crystal Growth, 2007, 308, 5-9.	1.5	56
68	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
69	Minority-Carrier Injection-Enhanced Recovery of Radiation-Induced Defects in n+p AlInGaP Solar Cells. , 2006, , .		0
70	Super high-efficiency multi-junction and concentrator solar cells. Solar Energy Materials and Solar Cells, 2006, 90, 3068-3077.	6.2	147
71	Multi-junction IIIâ€"V solar cells: current status and future potential. Solar Energy, 2005, 79, 78-85.	6.1	340
72	InGaP/GaAs-based multijunction solar cells. Progress in Photovoltaics: Research and Applications, 2005, 13, 495-511.	8.1	150

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73	Development of concentrator modules with dome-shaped Fresnel lenses and triple-junction concentrator cells. Progress in Photovoltaics: Research and Applications, 2005, 13, 513-527.	8.1	49
74	Japanese programs on novel concepts in PV. Semiconductors, 2004, 38, 956-961.	0.5	3
75	IIIâ€"V compound multi-junction solar cells: present and future. Solar Energy Materials and Solar Cells, 2003, 75, 261-269.	6.2	259
76	Effects of proton irradiation on n+p InGaP solar cells. Journal of Applied Physics, 2002, 91, 3306-3311.	2.5	27
77	Generation and annihilation of boronâ€"oxygen related defects in boron-doped Czochralski-grown Si solar cells. Journal of Applied Physics, 2002, 91, 4853-4856.	2.5	7
78	Multi-junction solar cells and novel structures for solar cell applications. Physica E: Low-Dimensional Systems and Nanostructures, 2002, 14, 84-90.	2.7	56
79	GaAs solar cells grown on Si substrates for space use. Progress in Photovoltaics: Research and Applications, 2001, 9, 191-201.	8.1	40
80	Evolution of defect complexes in silicon single crystals with heavy fluence 10 MeV proton irradiation. Journal of Applied Physics, 2000, 87, 2162-2168.	2.5	17
81	Deep level analysis of radiation-induced defects in Si crystals and solar cells. Journal of Applied Physics, 1999, 86, 217-223.	2.5	53
82	Radiation resistance of high-efficiency InGaP/GaAs tandem solar cells. Solar Energy Materials and Solar Cells, 1999, 58, 265-276.	6.2	27
83	Superior radiation-resistant properties of InGaP/GaAs tandem solar cells. Applied Physics Letters, 1997, 70, 1566-1568.	3.3	79
84	Minority-carrier injection-enhanced annealing of radiation damage to InGaP solar cells. Applied Physics Letters, 1997, 70, 2180-2182.	3.3	58
85	Two-Terminal MonolithicIn0.5Ga0.5P/GaAsTandem Solar Cells with a High Conversion Efficiency of Over 30%. Japanese Journal of Applied Physics, 1997, 36, 6215-6220.	1.5	61
86	Chemical beam epitaxy as a breakthrough technology for photovoltaic solar energy applications. Journal of Crystal Growth, 1994, 136, 29-36.	1.5	35
87	Dislocation density reduction in heteroepitaxial III-V compound films on Si substrates for optical devices. Journal of Materials Research, 1991, 6, 376-384.	2.6	111
88	Heteroepitaxial growth and characterization of InP on Si substrates. Journal of Applied Physics, 1990, 68, 540-547.	2.5	77
89	Analysis of strainedâ€layer superlattice effects on dislocation density reduction in GaAs on Si substrates. Applied Physics Letters, 1989, 54, 24-26.	3.3	103
90	Heteroepitaxy of III-V Compounds on Si Substrates for Solar Cells and Led. Materials Research Society Symposia Proceedings, 1989, 145, 279.	0.1	8

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91	Defect reduction effects in GaAs on Si substrates by thermal annealing. Applied Physics Letters, 1988, 53, 2293-2295.	3.3	185
92	Mechanism for radiation resistance of InP solar cells. Journal of Applied Physics, 1988, 63, 5555-5562.	2.5	151
93	Double Heterostructure GaAs Tunnel Junction for a AlGaAs/GaAs Tandem Solar Cell. Japanese Journal of Applied Physics, 1988, 27, 269-272.	1.5	123
94	Nonradiative e-h Recombination Characteristics of Mid-Gap Electron Trap in AlxGa1-xAs (x=0.4) Grown by Molecular Beam Epitaxy. Japanese Journal of Applied Physics, 1987, 26, L266-L269.	1.5	24
95	Radiation damage of GaAs thinâ€film solar cells on Si substrates. Journal of Applied Physics, 1987, 61, 762-766.	2.5	6
96	Highâ€efficiency Al0.3Ga0.7As solar cells grown by molecular beam epitaxy. Applied Physics Letters, 1987, 51, 1075-1077.	3.3	16
97	Numerical analysis for radiationâ€resistant GaAs heteroface solar cell structures. Journal of Applied Physics, 1985, 57, 537-544.	2.5	35
98	Efficiency calculations of thinâ€film GaAs solar cells on Si substrates. Journal of Applied Physics, 1985, 58, 3601-3606.	2.5	204
99	Effects of Impurities on Gamma-Irradiated Silicon Crystal Examined by Photovoltaic Effect ofP-NJunction Diode. Japanese Journal of Applied Physics, 1972, 11, 1016-1023.	1.5	9
100	High-Efficiency GaAs-Based Solar Cells. , 0, , .		8
101	New Trends in Solar Cells. Advances in Chemical and Materials Engineering Book Series, 0, , 1-21.	0.3	0
102	Super High Efficiency Multi-Junction Solar Cells and Concentrator Solar Cells. Advances in Chemical and Materials Engineering Book Series, 0, , 139-162.	0.3	2
103	Super High Efficiency Multi-Junction Solar Cells and Concentrator Solar Cells. , 0, , 2003-2023.		0