Aaron J Ptak

List of Publications by Year
in descending order

65 papers	1,303 citations	516710 16 h-index	377865 34 g-index
68 all docs	68 docs citations	68 times ranked	1282 citing authors

#	Article	IF	Citations
1	Performance of IIIâ€“V Solar Cells Grown on Reformed Mesoporous Ge Templates. IEEE Journal of Photovoltaics, 2022, 12, 337-343.	2.5	5
2	Controlled spalling of (100)-oriented GaAs with a nanoimprint lithography interlayer for thin-film layer transfer without facet formation. Thin Solid Films, 2022, 742, 139049.	1.8	4
3	(110)-Oriented GaAs Devices and Spalling as a Platform for Low-Cost III-V Photovoltaics. IEEE Journal of Photovoltaics, 2022, 12, 962-967.	2.5	2
4	Highâ€Efficiency Solar Cells Grown on Spalled Germanium for Substrate Reuse without Polishing. Advanced Energy Materials, 2022, 12, .	19.5	12
5	Consideration of the Intricacies Inherent in Molecular Beam Epitaxy of the NaCl/GaAs System. ACS Omega, 2022, 7, 24353-24364.	3.5	1
6	Compositionally graded Ga1â^'xInxP buffers grown by static and dynamic hydride vapor phase epitaxy at rates up to 1 <i>Î¼</i>m/min. Applied Physics Letters, 2021, 118, .	3.3	4
7	Facet Suppression in (100) GaAs spalling via use of a Nanoimprint Lithography Release Layer. , 2021, , .		0
8	Recent HVPE grown solar cells at NREL. , 2021, , .		2
9	Control of Surface Morphology during the Growth of (110)-Oriented GaAs by Hydride Vapor Phase Epitaxy. Crystal Growth and Design, 2021, 21, 3916-3921.	3.0	3
10	Planarization of Rough (100) GaAs Substrates via Growth by Hydride Vapor Phase Epitaxy. , 2021, , .		2
11	(110)-Oriented GaAs Devices and Spalling as a Platform for Low-Cost III-V Photovoltaics. , 2021, , .		2
12	Effect of Doping Density on the Performance of Metamorphic GaInAs Solar Cells Grown by Dynamic Hydride Vapor Phase Epitaxy. , 2021, , .		0
13	Inverted metamorphic GaInAs solar cell grown by dynamic hydride vapor phase epitaxy. Applied Physics Letters, 2021, 119, .	3.3	4
14	Surface chemistry models for GaAs epitaxial growth and hydride cracking using reacting flow simulations. Journal of Applied Physics, 2021, 130, 115702.	2.5	1
15	Dopant Diffusion Control for Improved Tandem Cells Grown by D-HVPE. IEEE Journal of Photovoltaics, 2021, 11, 1251-1255.	2.5	3
16	Effect of hydride vapor phase epitaxy growth conditions on the degree of atomic ordering in GaInP. Journal of Applied Physics, 2020, 128, .	2.5	3
17	Patterning Metal Grids for GaAs Solar Cells with Cracked Film Lithography: Quantifying the Cost/Performance Tradeoff. ACS Applied Materials & Interfaces, 2020, 12, 41471-41476.	8.0	10
18	GaAs growth rates of 528 Î¼m/h using dynamic-hydride vapor phase epitaxy with a nitrogen carrier gas. Applied Physics Letters, 2020, 116, .	3.3	14

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19	The 2020 photovoltaic technologies roadmap. Journal Physics D: Applied Physics, 2020, 53, 493001.	2.8	274
20	GaAs solar cells grown on intentionally contaminated GaAs substrates. Journal of Crystal Growth, 2020, 541, 125668.	1.5	6
21	GaAs Substrate Recycling Using in-situ Deposited NaCl Layers via Molecular Beam Epitaxy. , 2020, , .		0
22	GaAs solar cells grown on intentionally contaminated GaAs substrates. , 2020, , .		0
23	GaAs Solar Cell Grown by Dynamic Hydride Vapor Phase Epitaxy Using Nitrogen Carrier Gas. , 2020, , .		0
24	Improved contacts for tandem cells with enhanced effciency grown by D-HVPE. , 2020, , .		0
25	Gallium arsenide solar cells grown at rates exceeding 300â€‰Âµmâ€‰hâˆ'1 by hydride vapor phase epitaxy. Nature Communications, 2019, 10, 3361.	12.8	61
26	Germanium-on-Nothing for Epitaxial Liftoff of GaAs Solar Cells. Joule, 2019, 3, 1782-1793.	24.0	41
27	Carrier-Transport Study of Gallium Arsenide Hillock Defects. Microscopy and Microanalysis, 2019, 25, 1160-1166.	0.4	4
28	III-V-Based Optoelectronics with Low-Cost Dynamic Hydride Vapor Phase Epitaxy. Crystals, 2019, 9, 3.	2.2	42
29	Uniformity of GaAs solar cells grown in a kinetically-limited regime by dynamic hydride vapor phase epitaxy. Solar Energy Materials and Solar Cells, 2019, 197, 84-92.	6.2	7
30	Toward Low-Cost 4-Terminal GaAs//Si Tandem Solar Cells. ACS Applied Energy Materials, 2019, 2, 2375-2380.	5.1	17
31	Analysis of GaAs Solar Cells Grown on 50 mm Wafers at 700 Â°C by Dynamic Hydride Vapor Phase Epitaxy. , 2019, , .		0
32	Reformed Mesoporous Ge for Substrate Reuse in III-V Solar Cells. , 2019, , .		5
33	Growth of AlGaAs, AlInP, and AlGaInP by Hydride Vapor Phase Epitaxy. ACS Applied Energy Materials, 2019, 2, 8405-8410.	5.1	19
34	Increased fracture depth range in controlled spalling of (100)-oriented germanium via electroplating. Thin Solid Films, 2018, 649, 154-159.	1.8	13
35	High growth rate hydride vapor phase epitaxy at low temperature through use of uncracked hydrides. Applied Physics Letters, 2018, 112, .	3.3	22
36	Tunnel Junction Development Using Hydride Vapor Phase Epitaxy. IEEE Journal of Photovoltaics, 2018, 8, 322-326.	2.5	13

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37	GaAs Solar Cells Grown on Unpolished, Spalled Ge Substrates. , 2018, , .		4
38	Improvement of Short-Circuit Current Density in GaInP Solar Cells Grown by Dynamic Hydride Vapor Phase Epitaxy. IEEE Journal of Photovoltaics, 2018, 8, 1616-1620.	2.5	8
39	HVPE-Grown GaAs//Si Tandem Device Performance. , 2018, , .		0
40	Tunable Bandgap GaInAsP Solar Cells With 18.7% Photoconversion Efficiency Synthesized by Low-Cost and High-Growth Rate Hydride Vapor Phase Epitaxy. IEEE Journal of Photovoltaics, 2018, 8, 1577-1583.	2.5	13
41	IIIâ€“V Solar Cells Grown on Unpolished and Reusable Spalled Ge Substrates. IEEE Journal of Photovoltaics, 2018, 8, 1384-1389.	2.5	11
42	Multijunction Ga_{0.5}In_{0.5}P/GaAs solar cells grown by dynamic hydride vapor phase epitaxy. Progress in Photovoltaics: Research and Applications, 2018, 26, 887-893.	8.1	33
43	Development of GaInP Solar Cells Grown by Hydride Vapor Phase Epitaxy. IEEE Journal of Photovoltaics, 2017, 7, 1153-1158.	2.5	23
44	Upright and Inverted Single-Junction GaAs Solar Cells Grown by Hydride Vapor Phase Epitaxy. IEEE Journal of Photovoltaics, 2017, 7, 157-161.	2.5	36
45	Near-field transport imaging application of photovoltaic materials. , 2017, , .		0
46	Notice of Removal Upright and inverted single junction GaAs solar cells grown by hydride vapor phase epitaxy. , 2017, , .		1
47	Analysis of GaInP Solar Cells Grown by Hydride Vapor Phase Epitaxy. , 2017, , .		0
48	GaLnAsP Solar Cells Grown by Hydride Vapor Phase Epitaxy for One-Sun & Low-Concentration III-V/Si Photovoltaics. , 2017, , .		0
49	Controlled exfoliation of (100) GaAs-based devices by spalling fracture. Applied Physics Letters, 2016, 108, .	3.3	60
50	InGaAsP solar cells grown by hydride vapor phase epitaxy. , 2016, , .		6
51	A kinetic model for GaAs growth by hydride vapor phase epitaxy. , 2016, , .		4
52	Computational fluid dynamics-aided analysis of a hydride vapor phase epitaxy reactor. Journal of Crystal Growth, 2016, 434, 138-147.	1.5	26
53	GaAs Solar Cells Grown by Hydride Vapor-Phase Epitaxy and the Development of GaInP Cladding Layers. IEEE Journal of Photovoltaics, 2016, 6, 191-195.	2.5	37
54	Low cost GaAs solar cells grown by hydride vapor phase epitaxy and the development of GaInP cladding layers. , 2015, , .		4

#	Article	IF	Citations
55	Modeling of gas curtains in a dual chamber hydride vapor phase epitaxial photovoltaic growth reactor. , 2015, , .		3
56	Effect of material choice on spalling fracture parameters to exfoliate thin PV devices. , 2014, , .		1
57	Low-cost III–V solar cells grown by hydride vapor-phase epitaxy. , 2014, , .		26
58	Atomic ordering and phase separation in MBE GaAs1â^'xBix. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2011, 29, 03C121.	1.2	53
59	Low-misfit epilayer analyses using <i>in situ</i> wafer curvature measurements. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2011, 29, .	1.2	8
60	Defect characterization by admittance spectroscopy techniques based on temperature-rate duality. , 2010, , .		0
61	Dominant recombination centers in Ga(In)NAs alloys: Ga interstitials. Applied Physics Letters, 2009, 95, .	3.3	57
62	Comparison of the dilute bismide and nitride alloys GaAsBi and GaAsN. Physica Status Solidi (B): Basic Research, 2009, 246, 504-507.	1.5	15
63	Dilute nitride GaInNAs and GaInNAsSb solar cells by molecular beam epitaxy. Journal of Applied Physics, 2007, 101, 114916.	2.5	192
64	GaInNAsSb Solar Cells Grown by Molecular Beam Epitaxy. , 2006, , .		1
65	Monolithic, Ultra-Thin GaInP/GaAs/GaInAs Tandem Solar Cells. , 2006, , .		11