Kevin L Schulte

List of Publications by Year
in descending order

66 papers	1,542 citations	394421 19 h-index	315739 38 g-index
67 all docs	67 docs citations	67 times ranked	1465 citing authors

#	Article	IF	Citations
1	Six-junction IIIâ€"V solar cells with 47.1% conversion efficiency under 143â€‰Suns concentration. Nature Energy, 2020, 5, 326-335.	39.5	408
2	Building a Six-Junction Inverted Metamorphic Concentrator Solar Cell. IEEE Journal of Photovoltaics, 2018, 8, 626-632.	2.5	148
3	Thermophotovoltaic efficiency of 40%. Nature, 2022, 604, 287-291.	27.8	108
4	Effect of crystal phase composition on the reductive and oxidative abilities of TiO2 nanotubes under UV and visible light. Applied Catalysis B: Environmental, 2010, 97, 354-360.	20.2	100
5	Gallium arsenide solar cells grown at rates exceeding 300â€‰Âµmâ€‰hâ^'1 by hydride vapor phase epitaxy. Nature Communications, 2019, 10, 3361.	12.8	61
6	Controlled exfoliation of (100) GaAs-based devices by spalling fracture. Applied Physics Letters, 2016, 108, .	3.3	60
7	High-efficiency inverted metamorphic 1.7/1.1 eV GaInAsP/GaInAs dual-junction solar cells. Applied Physics Letters, 2018, 112, .	3.3	47
8	III-V-Based Optoelectronics with Low-Cost Dynamic Hydride Vapor Phase Epitaxy. Crystals, 2019, 9, 3.	2.2	42
9	Germanium-on-Nothing for Epitaxial Liftoff of GaAs Solar Cells. Joule, 2019, 3, 1782-1793.	24.0	41
10	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
11	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
12	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
13	Computational fluid dynamics-aided analysis of a hydride vapor phase epitaxy reactor. Journal of Crystal Growth, 2016, 434, 138-147.	1.5	26
14	Controlled formation of GaAs pn junctions during hydride vapor phase epitaxy of GaAs. Journal of Crystal Growth, 2012, 352, 253-257.	1.5	24
15	Development of GaInP Solar Cells Grown by Hydride Vapor Phase Epitaxy. IEEE Journal of Photovoltaics, 2017, 7, 1153-1158.	2.5	23
16	High growth rate hydride vapor phase epitaxy at low temperature through use of uncracked hydrides. Applied Physics Letters, 2018, 112, .	3.3	22
17	Six-junction concentrator solar cells. AIP Conference Proceedings, 2018, , .	0.4	21
18	Metalorganic vapor phase growth of quantum well structures on thick metamorphic buffer layers grown by hydride vapor phase epitaxy. Journal of Crystal Growth, 2013, 370, 293-298.	1.5	19

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19	Highly Transparent Compositionally Graded Buffers for New Metamorphic Multijunction Solar Cell Designs. IEEE Journal of Photovoltaics, 2017, 7, 347-353.	2.5	19
20	Growth of AlGaAs, AlInP, and AlGaInP by Hydride Vapor Phase Epitaxy. ACS Applied Energy Materials, 2019, 2, 8405-8410.	5.1	19
21	Toward Low-Cost 4-Terminal GaAs//Si Tandem Solar Cells. ACS Applied Energy Materials, 2019, 2, 2375-2380.	5.1	17
22	Pathway to 50% efficient inverted metamorphic concentrator solar cells. AIP Conference Proceedings, 2017, , .	0.4	15
23	Internal Resistive Barriers Related to Zinc Diffusion During the Growth of Inverted Metamorphic Multijunction Solar Cells. IEEE Journal of Photovoltaics, 2019, 9, 167-173.	2.5	14
24	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
25	Increased fracture depth range in controlled spalling of (100)-oriented germanium via electroplating. Thin Solid Films, 2018, 649, 154-159.	1.8	13
26	Tunnel Junction Development Using Hydride Vapor Phase Epitaxy. IEEE Journal of Photovoltaics, 2018, 8, 322-326.	2.5	13
27	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
28	IIIâ€“V Solar Cells Grown on Unpolished and Reusable Spalled Ge Substrates. IEEE Journal of Photovoltaics, 2018, 8, 1384-1389.	2.5	11
29	Reduced dislocation density in GaxIn1âˆ’xP compositionally graded buffer layers through engineered glide plane switch. Journal of Crystal Growth, 2017, 464, 20-27.	1.5	10
30	Inverted metamorphic AlGaInAs/GaInAs tandem thermophotovoltaic cell designed for thermal energy grid storage application. Journal of Applied Physics, 2020, 128, .	2.5	10
31	Near-field transport imaging applied to photovoltaic materials. Solar Energy, 2017, 153, 134-141.	6.1	9
32	Heteroepitaxy of GaAs on (001) â†’ 6Â° Ge substrates at high growth rates by hydride vapor phase epitaxy. Journal of Applied Physics, 2013, 113, 174903.	2.5	8
33	A model for arsenic anti-site incorporation in GaAs grown by hydride vapor phase epitaxy. Journal of Applied Physics, 2014, 116, .	2.5	8
34	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
35	Lowâ€strain, quantumâ€cascadeâ€laser active regions grown on metamorphic buffer layers for emission in the 3.0â€“4.0 Î¼m wavelength region. IET Optoelectronics, 2014, 8, 25-32.	3.3	7
36	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

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37	Guided Optimization of Phase-Unstable IIIâ€"V Compositionally Graded Buffers by Cathodoluminescence Spectrum Imaging. IEEE Journal of Photovoltaics, 2020, 10, 109-116.	2.5	7
38	InGaAsP solar cells grown by hydride vapor phase epitaxy. , 2016, , .		6
39	Evolution of epilayer tilt in thick In Ga1â^'As metamorphic buffer layers grown by hydride vapor phase epitaxy. Journal of Crystal Growth, 2015, 426, 283-286.	1.5	5
40	Low cost GaAs solar cells grown by hydride vapor phase epitaxy and the development of GaInP cladding layers. , 2015, , .		4
41	A kinetic model for GaAs growth by hydride vapor phase epitaxy. , 2016, , .		4
42	GaAs Solar Cells Grown on Unpolished, Spalled Ge Substrates. , 2018, , .		4
43	Strategies for Thinning Graded Buffer Regions in Metamorphic Solar Cells and Performance Tradeoffs. IEEE Journal of Photovoltaics, 2018, 8, 1349-1354.	2.5	4
44	Carrier-Transport Study of Gallium Arsenide Hillock Defects. Microscopy and Microanalysis, 2019, 25, 1160-1166.	0.4	4
45	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
46	Inverted metamorphic GaInAs solar cell grown by dynamic hydride vapor phase epitaxy. Applied Physics Letters, 2021, 119, .	3.3	4
47	Modeling of gas curtains in a dual chamber hydride vapor phase epitaxial photovoltaic growth reactor. , 2015, , .		3
48	Enhanced Incorporation of P into Tensile-Strained GaAs1-yPyLayers Grown by Metal-Organic Vapor Phase Epitaxy at Very Low Temperatures. ECS Journal of Solid State Science and Technology, 2016, 5, P183-P189.	1.8	3
49	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
50	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
51	Dopant Diffusion Control for Improved Tandem Cells Grown by D-HVPE. IEEE Journal of Photovoltaics, 2021, 11, 1251-1255.	2.5	3
52	Planarization and Processing of Metamorphic Buffer Layers Grown by Hydride Vapor-Phase Epitaxy. Journal of Electronic Materials, 2014, 43, 873-878.	2.2	2
53	Recent HVPE grown solar cells at NREL. , 2021, , .		2
54	(110)-Oriented GaAs Devices and Spalling as a Platform for Low-Cost III-V Photovoltaics. , 2021, , .		2

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55	(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
56	Notice of Removal Upright and inverted single junction GaAs solar cells grown by hydride vapor phase epitaxy. , 2017, , .		1
57	Surface chemistry models for GaAs epitaxial growth and hydride cracking using reacting flow simulations. Journal of Applied Physics, 2021, 130, 115702.	2.5	1
58	Analysis of GaInP Solar Cells Grown by Hydride Vapor Phase Epitaxy. , 2017, , .		0
59	Notice of Removal Highly transparent compositionally graded buffers for new metamorphic multi-junction solar cell designs. , 2017, , .		0
60	GaLnAsP Solar Cells Grown by Hydride Vapor Phase Epitaxy for One-Sun & Low-Concentration III-V/Si Photovoltaics. , 2017, , .		0
61	Fabrication of Thin III-V Solar Cells on Ni Films using Electroless Ni Deposition. , 2019, , .		0
62	Analysis of GaAs Solar Cells Grown on 50 mm Wafers at 700 Â°C by Dynamic Hydride Vapor Phase Epitaxy. , 2019, , .		0
63	High Performance GaAs Solar Cells Grown at High Growth Rates by Atmospheric-Pressure Dynamic Hydride Vapor Phase Epitaxy. , 2019, , .		0
64	Effect of Doping Density on the Performance of Metamorphic GaInAs Solar Cells Grown by Dynamic Hydride Vapor Phase Epitaxy. , 2021, , .		0
65	GaAs Solar Cell Grown by Dynamic Hydride Vapor Phase Epitaxy Using Nitrogen Carrier Gas. , 2020, , .		0
66	Improved contacts for tandem cells with enhanced effciency grown by D-HVPE. , 2020, , .		0