Enrique Barrigon

List of Publications by Year
in descending order

67 papers	978 citations	567281 15 h-index	501196 28 g-index
67 all docs	67 docs citations	67 times ranked	1153 citing authors

#	Article	IF	Citations
1	Synthesis and Applications of IIIâ€"V Nanowires. Chemical Reviews, 2019, 119, 9170-9220.	47.7	208
2	Understanding InP Nanowire Array Solar Cell Performance by Nanoprobe-Enabled Single Nanowire Measurements. Nano Letters, 2018, 18, 3038-3046.	9.1	69
3	Analysis of perimeter recombination in the subcells of GaInP/GaAs/Ge tripleâ€junction solar cells. Progress in Photovoltaics: Research and Applications, 2015, 23, 874-882.	8.1	50
4	GaAs Nanowire pn-Junctions Produced by Low-Cost and High-Throughput Aerotaxy. Nano Letters, 2018, 18, 1088-1092.	9.1	43
5	Refractive indexes and extinction coefficients of n- and p-type doped GaInP, AlInP and AlGaInP for multijunction solar cells. Solar Energy Materials and Solar Cells, 2018, 174, 388-396.	6.2	40
6	Implications of low breakdown voltage of component subcells on external quantum efficiency measurements of multijunction solar cells. Progress in Photovoltaics: Research and Applications, 2015, 23, 1597-1607.	8.1	36
7	Highly conductive p ^{â€‰+â€‰+â€‰}â€AlGaAs/n ^{â€‰+â€‰+â€‰}â€GaInP tunnel junctions for ultraâ€high concentrator solar cells. Progress in Photovoltaics: Research and Applications, 2014, 22, 399-404.	8.1	35
8	Limiting factors on the semiconductor structure of III-V multijunction solar cells for ultra-high concentration (1000-5000 suns). Progress in Photovoltaics: Research and Applications, 2016, 24, 1332-1345.	8.1	33
9	10 MeV proton irradiation effects on GaInP/GaAs/Ge concentrator solar cells and their component subcells. Solar Energy Materials and Solar Cells, 2017, 159, 576-582.	6.2	29
10	InP/InAsP Nanowire-Based Spatially Separate Absorption and Multiplication Avalanche Photodetectors. ACS Photonics, 2017, 4, 2693-2698.	6.6	27
11	Radiation Tolerant Nanowire Array Solar Cells. ACS Nano, 2019, 13, 12860-12869.	14.6	27
12	Reflectance anisotropy spectroscopy assessment of the MOVPE nucleation of GaInP on germanium (1 0) Tj ETQq0 0 0 rgBT /Overlock 10	1.5	20
13	Degradation of Ge subcells by thermal load during the growth of multijunction solar cells. Progress in Photovoltaics: Research and Applications, 2018, 26, 102-111.	8.1	19
14	Application of photoreflectance to advanced multilayer structures for photovoltaics. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 2013, 178, 599-608.	3.5	16
15	Analysis of germanium epiready wafers for IIIâ€"V heteroepitaxy. Journal of Crystal Growth, 2008, 310, 4803-4807.	1.5	15
16	IIIâ€"V multijunction solar cells for ultra-high concentration photovoltaics. , 2009, , .		15
17	<i>In situ</i> control of As dimer orientation on Ge(100) surfaces. Applied Physics Letters, 2012, 101, .	3.3	15
18	Nanowire Solar Cells: A New Radiation Hard PV Technology for Space Applications. IEEE Journal of Photovoltaics, 2020, 10, 502-507.	2.5	15

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19	Compositional analysis and evolution of defects formed on GaInP epilayers grown on Germanium. Superlattices and Microstructures, 2009, 45, 277-284.	3.1	14
20	Light current-voltage measurements of single, as-grown, nanowire solar cells standing vertically on a substrate. Nano Energy, 2020, 78, 105191.	16.0	14
21	Why canâ€™t I measure the external quantum efficiency of the Ge subcell of my multijunction solar cell?. AIP Conference Proceedings, 2015, , .	0.4	13
22	Unravelling processing issues of nanowire-based solar cell arrays by use of electron beam induced current measurements. Nano Energy, 2020, 71, 104575.	16.0	13
23	Extended Triple-Junction Solar Cell 3D Distributed Model: Application to Chromatic Aberration-Related Losses. , 2011, , .		12
24	Development of the Lattice Matched GaInP/GaInAs/Ge Triple Junction Solar Cell with an Efficiency Over 40%. , 2018, , .		11
25	Realization of axially defined GaInP/InP/InAsP triple-junction photovoltaic nanowires for high-performance solar cells. Materials Today Energy, 2022, 27, 101050.	4.7	11
26	GaInP/GaInAs/Ge triple junction solar cells for ultra high concentration. , 2009, , .		10
27	On the thermal degradation of tunnel diodes in multijunction solar cells. AIP Conference Proceedings, 2017, , .	0.4	10
28	Effect of Ge autodoping during III-V MOVPE growth on Ge substrates. Journal of Crystal Growth, 2017, 475, 378-383.	1.5	10
29	Hot-carrier separation in heterostructure nanowires observed by electron-beam induced current. Nanotechnology, 2020, 31, 394004.	2.6	10
30	Self-Limiting Polymer Exposure for Vertical Processing of Semiconductor Nanowire-Based Flexible Electronics. ACS Applied Nano Materials, 2020, 3, 7743-7749.	5.0	9
31	Semiconductor nanowire array for transparent photovoltaic applications. Applied Physics Letters, 2021, 118, 191107.	3.3	9
32	In situ study of Ge(100) surfaces with tertiarybutylphosphine supply in vapor phase epitaxy ambient. Journal of Crystal Growth, 2013, 370, 173-176.	1.5	8
33	Ge(100) surfaces prepared in vapor phase epitaxy process ambient. Physica Status Solidi - Rapid Research Letters, 2012, 6, 178-180.	2.4	7
34	Optical in situ calibration of Sb for growing disordered GaInP by MOVPE. Journal of Crystal Growth, 2015, 426, 71-74.	1.5	7
35	Differences between GaAs/GaInP and GaAs/AlInP interfaces grown by movpe revealed by depth profiling and angle-resolved X-ray photoelectron spectroscopies. Applied Surface Science, 2016, 360, 477-484.	6.1	7
36	Time-resolved photoluminescence characterization of GaAs nanowire arrays on native substrate. Nanotechnology, 2017, 28, 505706.	2.6	7

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37	Template-assisted vapourâ€“liquidâ€“solid growth of InP nanowires on (001) InP and Si substrates. Nanoscale, 2020, 12, 888-894.	5.6	7
38	Simulating IIIâ€“V concentrator solar cells: A comparison of advantages and limitations of lumped analytical models; distributed analytical models and numerical simulation. , 2009, , .		6
39	Analysis of the surface state of epi-ready Ge wafers. Applied Surface Science, 2012, 258, 8166-8170.	6.1	6
40	Optical <i>in situ</i> monitoring of hydrogen desorption from Ge(100) surfaces. Applied Physics Letters, 2013, 102, .	3.3	6
41	Development and Characterization of a bottom-up InP Nanowire Solar Cell with 16.7% Efficiency. , 2020, , .		6
42	Quantitative Determination of Luminescent Coupling in Multijunction Solar Cells from Spectral Photovoltage Measurements. Physical Review Applied, 2016, 6, .	3.8	5
43	Effect of Sb on the quantum efficiency of GaInP solar cells. Progress in Photovoltaics: Research and Applications, 2016, 24, 1116-1122.	8.1	5
44	Impact of the III-V/Ge nucleation routine on the performance of high efficiency multijunction solar cells. Solar Energy Materials and Solar Cells, 2020, 207, 110355.	6.2	5
45	Imaging the influence of oxides on the electrostatic potential of photovoltaic InP nanowires. Nano Research, 2021, 14, 4087-4092.	10.4	5
46	The effect of Sb-surfactant on GaInP CuPt_B type ordering: assessment through dark field TEM and aberration corrected HAADF imaging. Physical Chemistry Chemical Physics, 2017, 19, 9806-9810.	2.8	4
47	Three-Dimensional Imaging of Beam-Induced Biasing of InP/GaInP Tunnel Diodes. Nano Letters, 2019, 19, 3490-3497.	9.1	4
48	Development and characterization of photovoltaic tandem-junction nanowires using electron-beam-induced current measurements. Nano Research, 2022, 15, 8510-8515.	10.4	4
49	Capacitance measurements for subcell characterization in multijunction solar cells. , 2010, , .		3
50	Atomic surface control of Ge(100) in MOCVD reactors coated with (Ga)As residuals. Applied Surface Science, 2021, 565, 150513.	6.1	3
51	Understanding the Anisotropy in the Electrical Conductivity of CuPt_B-type Ordered GaInP Thin Films by Combining <i>In Situ</i> TEM Biasing and First Principles Calculations. ACS Applied Electronic Materials, 2022, 4, 3478-3485.	4.3	3
52	Application of capacitance-based techniques to the characterization of multijunction solar cells. , 2009, , .		2
53	Roadmap towards efficiencies over 40% at ultra-high concentrations (> 1000 suns). , 2011, , .		2
54	On the use of Sb to improve the performance of GaInP subcells of multijunction solar cells. , 2015, , .		2

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55	Photovoltaic nanowires affect human lung cell proliferation under illumination conditions. Nanoscale, 2020, 12, 14237-14244.	5.6	2
56	Triple-junction solar cells for ultra-high concentrator applications. , 2011, , .		1
57	On the use of I–V curves as a diagnosis tool for proper external quantum efficiency measurements of multijunction solar cells. , 2014, , .		1
58	Nanoprobe-Enabled Electron Beam Induced Current Measurements on III-V Nanowire-Based Solar Cells. , 2019, , .		1
59	Design study of a nanowire three-terminal heterojunction bipolar transistor solar cell. , 2021, , .		1
60	XPS as characterization tool for PV: From the substrate to complete III-V multijunction solar cells. , 2011, , .		0
61	Si(100) versus Ge(100): Watching the interface formation for the growth of III-V-based solar cells on abundant substrates. , 2011, , .		0
62	XPS as characterization tool for PV: From the substrate to complete III-V multijunction solar cells. , 2011, , .		0
63	Open-atmosphere structural depth profiling of multilayer samples of photovoltaic interest using laser-induced plasma spectrometry. , 2012, , .		0
64	In situ control of Si(100) and Ge(100) surface preparation for the heteroepitaxy of III-V solar cell architectures. , 2012, , .		0
65	GaAsP Nanowire Solar Cell Development Towards Nanowire/Si Tandem Applications. , 2017, , .		0
66	Combined photo- and electroreflectance of multijunction solar cells enabled by subcell electric coupling. Applied Physics Letters, 2019, 114, 153501.	3.3	0
67	Irradiation Experiments on High Efficiency Nanowire Solar Cells Including Tilted Incidence Angle. , 2020, , .		0