Richard ArÃ¨s

List of Publications by Year
in descending order

40 papers	597 citations	687363 13 h-index	610901 24 g-index
40 all docs	40 docs citations	40 times ranked	516 citing authors

#	Article	IF	Citations
1	Ultrahigh efficiencies in vertical epitaxial heterostructure architectures. Applied Physics Letters, 2016, 108, .	3.3	82
2	High-photovoltage GaAs vertical epitaxial monolithic heterostructures with 20 thin p/n junctions and a conversion efficiency of 60%. Applied Physics Letters, 2016, 109, .	3.3	71
3	Uprooting defects to enable high-performance IIIâ€“V optoelectronic devices on silicon. Nature Communications, 2019, 10, 4322.	12.8	44
4	Mesoporous germanium morphology transformation for lift-off process and substrate re-use. Applied Physics Letters, 2013, 102, .	3.3	39
5	Chemical Composition of Nanoporous Layer Formed by Electrochemical Etching of p-Type GaAs. Nanoscale Research Letters, 2016, 11, 446.	5.7	39
6	Mesoporous Germanium formed by bipolar electrochemical etching. Electrochimica Acta, 2013, 88, 256-262.	5.2	35
7	Fast growth synthesis of mesoporous germanium films by high frequency bipolar electrochemical etching. Electrochimica Acta, 2017, 232, 422-430.	5.2	33
8	Measurement of strong photon recycling in ultraâ€thin GaAs n/p junctions monolithically integrated in highâ€photovoltage vertical epitaxial heterostructure architectures with conversion efficiencies exceeding 60%. Physica Status Solidi - Rapid Research Letters, 2017, 11, 1600385.	2.4	27
9	Approaching the Shockley-Queisser limit: General assessment of the main limiting mechanisms in photovoltaic cells. Journal of Applied Physics, 2015, 117, .	2.5	26
10	Fabrication of high resistivity cold-implanted InGaAsP photoconductors for efficient pulsed terahertz devices. Optical Materials Express, 2011, 1, 1165.	3.0	25
11	Challenges and strategies for implementing the vertical epitaxial heterostructure architechture (VEHSA) design for concentrated photovoltaic applications. Solar Energy Materials and Solar Cells, 2018, 181, 46-52.	6.2	18
12	Tunable conductivity in mesoporous germanium. Nanotechnology, 2018, 29, 215701.	2.6	17
13	Five-volt vertically-stacked, single-cell GaAs photonic power converter. Proceedings of SPIE, 2015, , .	0.8	15
14	Thin n/p GaAs Junctions for Novel High-Efficiency Phototransducers Based on a Vertical Epitaxial Heterostructure Architecture. MRS Advances, 2016, 1, 881-890.	0.9	11
15	Grapheneâ€“Mesoporous Si Nanocomposite as a Compliant Substrate for Heteroepitaxy. Small, 2017, 13, 1603269.	10.0	11
16	Theoretical and experimental molecular beam angular distribution studies for gas injection in ultra-high vacuum. Journal of Crystal Growth, 2009, 311, 1640-1645.	1.5	9
17	Extreme temperature stability of thermally insulating graphene-mesoporous-silicon nanocomposite. Nanotechnology, 2018, 29, 145701.	2.6	9
18	Structural, optical and terahertz properties of graphene-mesoporous silicon nanocomposites. Nanoscale Advances, 2020, 2, 340-346.	4.6	8

#	Article	IF	Citations
19	Costâ€effective energy harvesting at ultraâ€high concentration with duplicated concentrated photovoltaic solar cells. Energy Science and Engineering, 2020, 8, 2760-2770.	4.0	8
20	Control of mesoporous silicon initiation by cathodic passivation. Electrochemistry Communications, 2013, 36, 84-87.	4.7	7
21	Near-infrared emission from mesoporous crystalline germanium. AIP Advances, 2014, 4, 107128.	1.3	6
22	Advances with vertical epitaxial heterostructure architecture (VEHSA) phototransducers for optical to electrical power conversion efficiencies exceeding 50 percent. Proceedings of SPIE, 2016, , .	0.8	6
23	Metastable States in Pressurized Bulk and Mesoporous Germanium. Journal of Physical Chemistry C, 2018, 122, 10929-10938.	3.1	6
24	Integration of 3D nanographene into mesoporous germanium. Nanoscale, 2020, 12, 23984-23994.	5.6	6
25	Shape control of cathodized germanium oxide nanoparticles. Electrochemistry Communications, 2021, 122, 106906.	4.7	6
26	A porous Ge/Si interface layer for defect-free III-V multi-junction solar cells on silicon. , 2019, , .		5
27	Inâ€Situ Transmission Electron Microscopy Observation of Germanium Growth on Freestanding Graphene: Unfolding Mechanism of 3D Crystal Growth During Van der Waals Epitaxy. Small, 2022, 18, e2101890.	10.0	5
28	Critical process temperatures for resistive InGaAsP/InP heterostructures heavily implanted by Fe or Ga ions. Nuclear Instruments & Methods in Physics Research B, 2015, 359, 99-106.	1.4	4
29	Enhanced photocarrier extraction mechanisms in ultra-thin photovoltaic GaAs n/p junctions. Proceedings of SPIE, 2016, , .	0.8	4
30	Microstructural evolution of a recrystallized Fe-implanted InGaAsP/InP heterostructure. Physica Status Solidi (A) Applications and Materials Science, 2015, 212, 1888-1896.	1.8	3
31	Optimized duplicated-junction solar cells: An innovative approach for energy harvesting at ultra-high concentrations. AIP Conference Proceedings, 2020, , .	0.4	2
32	Effect of sintering germanium epilayers on dislocation dynamics: From theory to experimental observation. Acta Materialia, 2020, 200, 608-618.	7.9	2
33	Probing the coupling between the components in a grapheneâ€"mesoporous germanium nanocomposite using high-pressure Raman spectroscopy. Nanoscale Advances, 2021, 3, 2577-2584.	4.6	2
34	Engineering dislocations and nanovoids for high-efficiency IIIâ€"V photovoltaic cells on silicon. AIP Conference Proceedings, 2020, , .	0.4	2
35	Terahertz photoconductivity and photocarrier dynamics in grapheneâ€"mesoporous silicon nanocomposites. Physical Review B, 2020, 102, .	3.2	1
36	Ultrafast photocarrier dynamics in Fe-implanted InGaAs polycrystalline photoconductive materials. Journal of Physics Condensed Matter, 2021, 33, 385701.	1.8	1

#	Article	IF	Citations
37	On the Test Particle Monte-Carlo method to solve the steady state Boltzmann equation, the congruity of its results with experiments and its potential for shared memory parallelism. Journal of Computational Physics, 2021, 444, 110590.	3.8	1
38	Focused gas beam injection for efficient ammonia-molecular beam epitaxial growth of III-nitride semiconductors. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2016, 34, .	1.2	1
39	Graphene-porous semiconductor nanocomposites scalable synthesis for energy applications. Journal of Physics: Conference Series, 2019, 1407, 012069.	0.4	0
40	AlN grown by CBE for power device applications. AIP Advances, 2020, 10, 065123.	1.3	0