Siva Krishna Karuturi

List of Publications by Year
in descending order

80 papers	3,522 citations	156536 32 h-index	169272 56 g-index
83 all docs	83 docs citations	83 times ranked	6000 citing authors

#	Article	IF	Citations
1	Realization and simulation of interdigitated back contact silicon solar cells with dopant-free asymmetric hetero-contacts. Solar Energy, 2022, 231, 203-208.	2.9	3
2	Surfaceâ€Structured Cocatalyst Foils Unraveling a Pathway to Highâ€Performance Solar Water Splitting. Advanced Energy Materials, 2022, 12, 2102752.	10.2	11
3	Topical review: pathways toward cost-effective single-junction IIIâ€“V solar cells. Journal Physics D: Applied Physics, 2022, 55, 143002.	1.3	17
4	Protocol on the fabrication of monocrystalline thin semiconductor via crack-assisted layer exfoliation technique for photoelectrochemical water-splitting. STAR Protocols, 2022, 3, 101015.	0.5	1
5	Direct solar to hydrogen conversion enabled by silicon photocathodes with carrier selective passivated contacts. Sustainable Energy and Fuels, 2022, 6, 349-360.	2.5	3
6	Unconventional direct synthesis of Ni₃N/Ni with N-vacancies for efficient and stable hydrogen evolution. Energy and Environmental Science, 2022, 15, 185-195.	15.6	44
7	Ultrathin transparent metal capping layer on metal oxide carrier-selective contacts for Si solar cells. European Physical Journal: Special Topics, 2022, 231, 2933-2939.	1.2	2
8	nâ€SnO<i>_x</i> as a Transparent Electrode and Heterojunction for pâ€InP Nanowire Light Emitting Diodes. Advanced Optical Materials, 2022, 10, .	3.6	4
9	Recent Advances in Materials Design Using Atomic Layer Deposition for Energy Applications. Advanced Functional Materials, 2022, 32, .	7.8	34
10	Direct GaAs Nanowire Growth and Monolithic Lightâ€Emitting Diode Fabrication on Flexible Plastic Substrates. Advanced Photonics Research, 2022, 3, .	1.7	4
11	Effective Passivation of InGaAs Nanowires for Telecommunication Wavelength Optoelectronics. Advanced Optical Materials, 2022, 10, .	3.6	5
12	SnS2-In2S3 p-n heterostructures with enhanced Cr6+ reduction under visible-light irradiation. Applied Surface Science, 2021, 537, 148063.	3.1	22
13	Controlled Cracking for Large-Area Thin Film Exfoliation: Working Principles, Status, and Prospects. ACS Applied Electronic Materials, 2021, 3, 145-162.	2.0	10
14	Earthâ€Abundant Amorphous Electrocatalysts for Electrochemical Hydrogen Production: A Review. Advanced Energy and Sustainability Research, 2021, 2, 2000071.	2.8	30
15	Holeâ€Storage Enhanced aâ€Si Photocathodes for Efficient Hydrogen Production. Angewandte Chemie, 2021, 133, 12073-12079.	1.6	2
16	Holeâ€Storage Enhanced aâ€Si Photocathodes for Efficient Hydrogen Production. Angewandte Chemie - International Edition, 2021, 60, 11966-11972.	7.2	29
17	2D Carrier Localization at the Wurtzite-Zincblende Interface in Novel Layered InP Nanomembranes. ACS Photonics, 2021, 8, 1735-1745.	3.2	10
18	Selective area epitaxy of IIIâ€“V nanostructure arrays and networks: Growth, applications, and future directions. Applied Physics Reviews, 2021, 8, .	5.5	75

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19	Direct Solar Hydrogen Generation at 20% Efficiency Using Lowâ€Cost Materials. Advanced Energy Materials, 2021, 11, 2101053.	10.2	35
20	Noble-Metal-Free Multicomponent Nanointegration for Sustainable Energy Conversion. Chemical Reviews, 2021, 121, 10271-10366.	23.0	156
21	Thin silicon via crack-assisted layer exfoliation for photoelectrochemical water splitting. IScience, 2021, 24, 102921.	1.9	4
22	Surface-Tailored InP Nanowires via Self-Assembled Au Nanodots for Efficient and Stable Photoelectrochemical Hydrogen Evolution. Nano Letters, 2021, 21, 6967-6974.	4.5	13
23	Bi₂S₃â€“In₂S₃ Heterostructures for Efficient Photoreduction of Highly Toxic Cr⁶⁺ Enabled by Facetâ€Coupling and Zâ€Scheme Structure. Small, 2021, 17, e2101833.	5.2	41
24	Manipulating Intermediates at the Auâ€“TiO₂ Interface over InP Nanopillar Array for Photoelectrochemical CO₂ Reduction. ACS Catalysis, 2021, 11, 11416-11428.	5.5	48
25	Ultrathin HfO2 passivated silicon photocathodes for efficient alkaline water splitting. Applied Physics Letters, 2021, 119, .	1.5	5
26	Non-epitaxial carrier selective contacts for III-V solar cells: A review. Applied Materials Today, 2020, 18, 100503.	2.3	23
27	Engineering IIIâ€“V Semiconductor Nanowires for Device Applications. Advanced Materials, 2020, 32, e1904359.	11.1	43
28	Design and operando/in situ characterization of preciousâ€metalâ€free electrocatalysts for alkaline water splitting. , 2020, 2, 582-613.		105
29	Solutionâ€Processed Electronâ€Selective Contacts Enabling 21.8% Efficiency Crystalline Silicon Solar Cells. Solar Rrl, 2020, 4, 2000569.	3.1	14
30	Monocrystalline InP Thin Films with Tunable Surface Morphology and Energy Band gap. ACS Applied Materials & Interfaces, 2020, 12, 36380-36388.	4.0	12
31	Solar Water Splitting: Over 17% Efficiency Standâ€Alone Solar Water Splitting Enabled by Perovskiteâ€Silicon Tandem Absorbers (Adv. Energy Mater. 28/2020). Advanced Energy Materials, 2020, 10, 2070122.	10.2	4
32	Three-Dimensional Ordered Macroporous TiO₂â€“TaO<i>_x</i>N<i>_y</i> Heterostructure for Photoelectrochemical Water Splitting. Journal of Physical Chemistry C, 2020, 124, 24135-24144.	1.5	4
33	Stable Electronâ€Selective Contacts for Crystalline Silicon Solar Cells Enabling Efficiency over 21.6%. Advanced Functional Materials, 2020, 30, 2005554.	7.8	19
34	Over 17% Efficiency Standâ€Alone Solar Water Splitting Enabled by Perovskiteâ€Silicon Tandem Absorbers. Advanced Energy Materials, 2020, 10, 2000772.	10.2	58
35	Highly uniform InGaAs/InP quantum well nanowire array-based light emitting diodes. Nano Energy, 2020, 71, 104576.	8.2	23
36	IIIâ€“V Semiconductor Materials for Solar Hydrogen Production: Status and Prospects. ACS Energy Letters, 2020, 5, 611-622.	8.8	54

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37	Design of Ultrathin InP Solar Cell Using Carrier Selective Contacts. IEEE Journal of Photovoltaics, 2020, 10, 1657-1666.	1.5	18
38	Enabling Unassisted Solar Water Splitting by Single-Junction Amorphous Silicon Photoelectrodes. ACS Applied Energy Materials, 2020, 3, 4629-4637.	2.5	11
39	Enhancement of the photoelectrochemical water splitting by perovskite BiFeO3 via interfacial engineering. Solar Energy, 2020, 202, 198-203.	2.9	49
40	Influence of Ni, Ti and NiTi alloy nanoparticles on hydrothermally grown ZnO nanowires for photoluminescence enhancement. Journal of Alloys and Compounds, 2019, 770, 1119-1129.	2.8	12
41	High-Efficiency Solar Cells from Extremely Low Minority Carrier Lifetime Substrates Using Radial Junction Nanowire Architecture. ACS Nano, 2019, 13, 12015-12023.	7.3	31
42	InGaAsP as a Promising Narrow Band Gap Semiconductor for Photoelectrochemical Water Splitting. ACS Applied Materials & Interfaces, 2019, 11, 25236-25242.	4.0	21
43	15% Efficiency Ultrathin Silicon Solar Cells with Fluorine-Doped Titanium Oxide and Chemically Tailored Poly(3,4-ethylenedioxythiophene):Poly(styrenesulfonate) as Asymmetric Heterocontact. ACS Nano, 2019, 13, 6356-6362.	7.3	53
44	Ultrathin Ta₂O₅ electron-selective contacts for high efficiency InP solar cells. Nanoscale, 2019, 11, 7497-7505.	2.8	38
45	Axial pâ€n junction design and characterization for InP nanowire array solar cells. Progress in Photovoltaics: Research and Applications, 2019, 27, 237-244.	4.4	22
46	Exploiting defects in TiO₂ inverse opal for enhanced photoelectrochemical water splitting. Optics Express, 2019, 27, 761.	1.7	37
47	Mechanically-stacked perovskite/CIGS tandem solar cells with efficiency of 23.9% and reduced oxygen sensitivity. Energy and Environmental Science, 2018, 11, 394-406.	15.6	209
48	CdS/TiO₂ photoanodes via solution ion transfer method for highly efficient solar hydrogen generation. Nano Futures, 2018, 2, 015004.	1.0	19
49	Tantalum Oxide Electron-Selective Heterocontacts for Silicon Photovoltaics and Photoelectrochemical Water Reduction. ACS Energy Letters, 2018, 3, 125-131.	8.8	127
50	Photoelectrochemical studies of InGaN/GaN MQW photoanodes. Nanotechnology, 2018, 29, 045403.	1.3	15
51	Tuning the morphology and structure of disordered hematite photoanodes for improved water oxidation:ÂA physical and chemical synergistic approach. Nano Energy, 2018, 53, 745-752.	8.2	29
52	Perovskite Photovoltaic Integrated CdS/TiO₂ Photoanode for Unbiased Photoelectrochemical Hydrogen Generation. ACS Applied Materials & Interfaces, 2018, 10, 23766-23773.	4.0	38
53	Indium phosphide based solar cell using ultra-thin ZnO as an electron selective layer. Journal Physics D: Applied Physics, 2018, 51, 395301.	1.3	28
54	Inverted Hysteresis in CH₃NH₃PbI₃ Solar Cells: Role of Stoichiometry and Band Alignment. Journal of Physical Chemistry Letters, 2017, 8, 2672-2680.	2.1	71

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55	Improved photoelectrochemical performance of GaN nanopillar photoanodes. Nanotechnology, 2017, 28, 154001.	1.3	29
56	Nanostructured Photoelectrodes via Template-Assisted Fabrication. Semiconductors and Semimetals, 2017, 97, 289-313.	0.4	2
57	Robust Subâ€Monolayers of Co₃O₄ Nanoâ€Islands: A Highly Transparent Morphology for Efficient Water Oxidation Catalysis. Advanced Energy Materials, 2016, 6, 1600697.	10.2	44
58	Enhanced luminescence from GaN nanopillar arrays fabricated using a top-down process. Nanotechnology, 2016, 27, 065304.	1.3	22
59	Applications of atomic layer deposition in solar cells. Nanotechnology, 2015, 26, 064001.	1.3	86
60	Temperature Dependence of Interband Transitions in Wurtzite InP Nanowires. ACS Nano, 2015, 9, 4277-4287.	7.3	48
61	Synthesis of nano-crystalline germanium carbide using radio frequency magnetron sputtering. Thin Solid Films, 2015, 592, 162-166.	0.8	19
62	Selective-Area Epitaxy of Pure Wurtzite InP Nanowires: High Quantum Efficiency and Room-Temperature Lasing. Nano Letters, 2014, 14, 5206-5211.	4.5	198
63	Nanowires Grown on InP (100): Growth Directions, Facets, Crystal Structures, and Relative Yield Control. ACS Nano, 2014, 8, 6945-6954.	7.3	51
64	Photon Upconversion in Heteroâ€nanostructured Photoanodes for Enhanced Nearâ€Infrared Light Harvesting. Advanced Materials, 2013, 25, 1603-1607.	11.1	127
65	Atomic Layer Deposition of Inverse Opals for Solar Cell Applications. Advanced Materials Research, 2013, 789, 3-7.	0.3	4
66	Light Harvesting: Photon Upconversion in Heteroâ€nanostructured Photoanodes for Enhanced Nearâ€Infrared Light Harvesting (Adv. Mater. 11/2013). Advanced Materials, 2013, 25, 1656-1656.	11.1	0
67	Ultralow Surface Recombination Velocity in InP Nanowires Probed by Terahertz Spectroscopy. Nano Letters, 2012, 12, 5325-5330.	4.5	158
68	Inverse opals coupled with nanowires as photoelectrochemical anode. Nano Energy, 2012, 1, 322-327.	8.2	50
69	Homogeneous Photosensitization of Complex TiO2 Nanostructures for Efficient Solar Energy Conversion. Scientific Reports, 2012, 2, 451.	1.6	81
70	Quantumâ€Dotâ€Sensitized TiO₂ Inverse Opals for Photoelectrochemical Hydrogen Generation. Small, 2012, 8, 37-42.	5.2	208
71	Inverse Opals: Quantum-Dot-Sensitized TiO2 Inverse Opals for Photoelectrochemical Hydrogen Generation (Small 1/2012). Small, 2012, 8, 36-36.	5.2	4
72	Atomic layer deposition for nanofabrication and interface engineering. Nanoscale, 2012, 4, 1522.	2.8	80

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73	A Novel Photoanode with Threeâ€Dimensionally, Hierarchically Ordered Nanobushes for Highly Efficient Photoelectrochemical Cells. Advanced Materials, 2012, 24, 4157-4162.	11.1	93
74	High index, reactive facet-controlled synthesis of one-dimensional single crystalline rare earth hydroxide nanobelts. CrystEngComm, 2011, 13, 5367.	1.3	4
75	TiO₂inverse-opal electrode fabricated by atomic layer deposition for dye-sensitized solar cell applications. Energy and Environmental Science, 2011, 4, 209-215.	15.6	122
76	Gradient inverse opal photonic crystals via spatially controlled template replication of self-assembled opals. Nanoscale, 2011, 3, 4951.	2.8	19
77	Electrochromic photonic crystal displays with versatile color tunability. Electrochemistry Communications, 2011, 13, 1163-1165.	2.3	33
78	Kinetics of Stop-Flow Atomic Layer Deposition for High Aspect Ratio Template Filling through Photonic Band Gap Measurements. Journal of Physical Chemistry C, 2010, 114, 14843-14848.	1.5	44
79	III-V compound SC for optoelectronic devices. Materials Today, 2009, 12, 22-32.	8.3	194
80	Narrowâ€Bandgap InGaAsP Solar Cell with TiO 2 Carrierâ€Selective Contact. Physica Status Solidi - Rapid Research Letters, 0, , 2100282.	1.2	2