

Sudhanshu Mallick

List of Publications by Year in descending order

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88
papers

1,850
citations

279798

23
h-index

302126

39
g-index

90
all docs

90
docs citations

90
times ranked

2418
citing authors

#	ARTICLE	IF	CITATIONS
1	Electrochemical Method To Prepare Graphene Quantum Dots and Graphene Oxide Quantum Dots. ACS Omega, 2017, 2, 8343-8353.	3.5	213
2	Dye Sensitized Solar Cells: A Review. Transactions of the Indian Ceramic Society, 2012, 71, 1-16.	1.0	97
3	Alternative quaternary chalcopyrite sulfides (Cu ₂ FeSnS ₄ and Cu ₂ CoSnS ₄) as electrocatalyst materials for counter electrodes in dye-sensitized solar cells. Journal of Power Sources, 2016, 305, 134-143.	7.8	92
4	Graphene quantum dots decorated electrospun TiO ₂ nanofibers as an effective photoanode for dye sensitized solar cells. Solar Energy Materials and Solar Cells, 2015, 143, 250-259.	6.2	90
5	Synthesis and characterization of carbon based counter electrode for dye sensitized solar cells (DSSCs) using sugar free as a carbon material. Solar Energy, 2017, 144, 215-220.	6.1	68
6	Synthesis of Cu ₂ NiSnS ₄ nanoparticles by hot injection method for photovoltaic applications. Materials Letters, 2014, 137, 440-443.	2.6	62
7	Low-temperature synthesis of Cu ₂ CoSnS ₄ nanoparticles by thermal decomposition of metal precursors and the study of its structural, optical and electrical properties for photovoltaic applications. RSC Advances, 2015, 5, 96928-96933.	3.6	56
8	Electronic band structure and carrier concentration of formamidinium cesium mixed cation lead mixed halide hybrid perovskites. Applied Physics Letters, 2018, 112, .	3.3	54
9	Newly developed thermoplastic polyolefin encapsulant A potential candidate for crystalline silicon photovoltaic modules encapsulation. Solar Energy, 2019, 194, 581-588.	6.1	46
10	Single step synthesis of chalcogenide nanoparticles Cu ₂ ZnSnS ₄ , Cu ₂ FeSnS ₄ by thermal decomposition of metal precursors. Materials Chemistry and Physics, 2014, 147, 371-374.	4.0	45
11	Experimental evaluation of room temperature crystallization and phase evolution of hybrid perovskite materials. CrystEngComm, 2017, 19, 3834-3843.	2.6	43
12	A simple route to making counter electrode for dye sensitized solar cells (DSSCs) using sucrose as carbon precursor. Journal of Colloid and Interface Science, 2015, 459, 146-150.	9.4	40
13	Electrospun TiC embedded CNFs as a low cost platinum-free counter electrode for dye-sensitized solar cell. Materials Research Bulletin, 2016, 75, 83-90.	5.2	38
14	Influence of dipping cycles on physical, optical, and electrical properties of Cu ₂ NiSnS ₄ : Direct solution dip coating for photovoltaic applications. Journal of Alloys and Compounds, 2017, 725, 510-518.	5.5	36
15	Liquid phase high shear exfoliated graphene nanoplatelets as counter electrode material for dye-sensitized solar cells. Journal of Colloid and Interface Science, 2017, 499, 9-16.	9.4	34
16	Cu ₂ ZnSnSe ₄ QDs sensitized electrospun porous TiO ₂ nanofibers as photoanode for high performance QDSC. Solar Energy, 2018, 171, 571-579.	6.1	34
17	Novel high-pressure airless spray exfoliation method for graphene nanoplatelets as a stable counter electrode in DSSC. Electrochimica Acta, 2018, 285, 86-93.	5.2	33
18	Photodynamic therapy using graphene quantum dot derivatives. Journal of Solid State Chemistry, 2020, 282, 121107.	2.9	32

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19	A novel cost effective fabrication technique for highly preferential oriented TiO ₂ nanotubes. <i>Nanoscale</i> , 2015, 7, 20386-20390.	5.6	28
20	Effect of annealing atmosphere on quaternary chalcogenide-based counter electrodes in dye-sensitized solar cell performance: synthesis of Cu ₂ FeSnS ₄ and Cu ₂ CdSnS ₄ nanoparticles by thermal decomposition process. <i>RSC Advances</i> , 2017, 7, 15139-15148.	3.6	28
21	Few layers graphene based conductive composite inks for Pt free stainless steel counter electrodes for DSSC. <i>Solar Energy</i> , 2018, 169, 67-74.	6.1	28
22	Binder-solvent effects on low temperature-processed carbon-based, hole-transport layer free perovskite solar cells. <i>Materials Chemistry and Physics</i> , 2020, 256, 123594.	4.0	28
23	High efficiency dye sensitized solar cell made by carbon derived from sucrose. <i>Optical Materials</i> , 2017, 64, 401-405.	3.6	25
24	Enhanced photovoltaic performance of a dye sensitized solar cell with Cu/N Co-doped TiO ₂ nanoparticles. <i>Journal of Materials Science: Materials in Electronics</i> , 2018, 29, 6274-6282.	2.2	25
25	TiO ₂ colloid-based compact layers for hybrid lead halide perovskite solar cells. <i>Applied Materials Today</i> , 2017, 7, 112-119.	4.3	24
26	Lead free, air stable perovskite derivative Cs ₂ SnI ₆ as HTM in DSSCs employing TiO ₂ nanotubes as photoanode. <i>Materials Research Bulletin</i> , 2018, 108, 113-119.	5.2	24
27	Electrochemical Synthesis of Novel Zn-Doped TiO ₂ Nanotube/ZnO Nanoflake Heterostructure with Enhanced DSSC Efficiency. <i>Nano-Micro Letters</i> , 2016, 8, 381-387.	27.0	23
28	Combinatorial Chemical Bath Deposition of CdS Contacts for Chalcogenide Photovoltaics. <i>ACS Combinatorial Science</i> , 2016, 18, 583-589.	3.8	23
29	Investigation of newly developed thermoplastic polyolefin encapsulant principle properties for the c-Si PV module application. <i>Materials Chemistry and Physics</i> , 2020, 243, 122660.	4.0	23
30	Anomalous magnetic behavior in nanocomposite materials of reduced graphene oxide-Ni/NiFe ₂ O ₄ . <i>Applied Physics Letters</i> , 2014, 105, .	3.3	22
31	Novel High Pressure Exfoliated Graphene-Based Semitransparent Stable DSSCs for Building Integrated Photovoltaics. <i>ACS Applied Energy Materials</i> , 2018, 1, 2512-2519.	5.1	22
32	Stability study of co-electrodeposited CZTS counter electrode for dye sensitized solar cells. <i>Solar Energy</i> , 2018, 176, 325-333.	6.1	20
33	Enhanced charge transport in low temperature carbon-based n-i-p perovskite solar cells with NiOx-CNT hole transport material. <i>Solar Energy Materials and Solar Cells</i> , 2021, 230, 111241.	6.2	19
34	Low temperature fabrication and characterization of wurtzite structured ZnS quantum dots by chemical spray pyrolysis. <i>Journal of Analytical and Applied Pyrolysis</i> , 2015, 115, 96-102.	5.5	18
35	A simple method to fabricate metal doped TiO ₂ nanotubes. <i>Chemical Physics</i> , 2019, 523, 198-204.	1.9	18
36	Carbon nano-onion-powered optically transparent and economical dye-sensitized solar cells. <i>Nanoscale</i> , 2020, 12, 20621-20630.	5.6	18

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37	Damp heat resilient thermoplastic polyolefin encapsulant for photovoltaic module encapsulation. Solar Energy Materials and Solar Cells, 2021, 224, 111024.	6.2	17
38	Water-Based High Shear Exfoliated Graphene-Based Semi-Transparent Stable Dye-Sensitized Solar Cells for Solar Power Window Application. IEEE Journal of Photovoltaics, 2018, 8, 1252-1258.	2.5	16
39	Mechanism of titania nanograin formation during anodization. Chemical Physics Letters, 2015, 626, 15-19.	2.6	15
40	Electrolyte pH dependent controlled growth of co-electrodeposited CZT films for application in CZTS based thin film solar cells. Journal of Materials Science: Materials in Electronics, 2018, 29, 4065-4074.	2.2	15
41	Early stage identification of encapsulants photobleaching and discoloration in crystalline silicon photovoltaic module laminates. Progress in Photovoltaics: Research and Applications, 2020, 28, 767-778.	8.1	15
42	Mechanism of structural transformation in bismuth titanate. Applied Physics Letters, 2005, 86, 182902.	3.3	14
43	Effect of solvent, reaction time on morphology of Cu ₂ ZnSnS ₄ (CZTS) nanoparticles and its application in Dye Sensitized Solar Cells. Materials Today: Proceedings, 2016, 3, 1778-1784.	1.8	14
44	Tin Incorporation in AgInSe ₂ Thin Films: Influence on Conductivity. Journal of Physical Chemistry C, 2015, 119, 5727-5733.	3.1	13
45	Low Temperature Synthesis and Characterization of Cu ₂ ZnSnS ₄ (CZTS) Nanoparticle by Solution Based Solid State Reaction Method. Energy Procedia, 2014, 57, 73-78.	1.8	12
46	Sb ₂ S ₃ Nanorods Based Electrochemical Catalyst for Triiodide Reduction in Dye-Sensitized Solar Cells. Journal of Electronic Materials, 2017, 46, 1926-1930.	2.2	11
47	One-dimensional TiO ₂ nanostructured photoanode for dye-sensitized solar cells by hydrothermal synthesis. Journal of Materials Science: Materials in Electronics, 2017, 28, 11528-11533.	2.2	11
48	Comparison of Crosslinking Kinetics of UV-Transparent Ethylene-Vinyl Acetate Copolymer and Polyolefin Elastomer Encapsulants. Polymers, 2022, 14, 1441.	4.5	11
49	Recent advances and challenges in solar photovoltaic and energy storage materials: future directions in Indian perspective. JPhys Energy, 2021, 3, 034018.	5.3	10
50	RF Sputtered Iridium (Ir) Film as a Counter Electrode for Dye-Sensitized Solar Cells. Journal of Electronic Materials, 2015, 44, 4400-4404.	2.2	9
51	Cu ₂ ZnSnS ₄ /CNT composites as Pt free counter electrodes for dye sensitized solar cells with improved efficiency. Materials Today: Proceedings, 2016, 3, 1808-1814.	1.8	9
52	Radiative and conductive thermal annealing of hybrid organic-inorganic perovskite layer. Solar Energy Materials and Solar Cells, 2019, 195, 353-357.	6.2	9
53	Natural solvent facilitated high-shear exfoliated graphene nanoplatelets enabled economically-efficient and stable DSSC. Materials Letters, 2021, 287, 129263.	2.6	9
54	Effect of Nanograin and Annealing Temperature on TiO ₂ /Nanotubes Based Dye Sensitized Solar Cells. Materials Science Forum, 0, 771, 103-113.	0.3	8

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55	A facile co-precipitation method for synthesis of Zn doped BaSnO ₃ nanoparticles for photovoltaic application. <i>Materials Chemistry and Physics</i> , 2021, 258, 123939.	4.0	8
56	Ambient condition curable, highly weather stable anti-soiling coating for photovoltaic application. <i>Solar Energy Materials and Solar Cells</i> , 2021, 230, 111203.	6.2	8
57	Characterization of reliability of anti-soiling coatings using tapping mode-AFM phase imaging. <i>Journal of Renewable and Sustainable Energy</i> , 2021, 13, .	2.0	7
58	Nanoparticles based single and tandem stable solar selective absorber coatings with wide angular solar absorptance. <i>Solar Energy Materials and Solar Cells</i> , 2022, 242, 111758.	6.2	7
59	Tetragonal nanostructured zirconia modified hematite mesoporous composite for efficient adsorption of toxic cations from wastewater. <i>Journal of Environmental Chemical Engineering</i> , 2017, 5, 5285-5292.	6.7	6
60	Additive engineering of 4,4'-Bis (N-carbazolyl)-1,1'-biphenyl (CBP) molecules for defects passivation and moisture stability of hybrid perovskite layer. <i>Solar Energy</i> , 2020, 211, 1084-1091.	6.1	6
61	UV resilient thermoplastic polyolefin encapsulant for photovoltaic module encapsulation. <i>Polymer Degradation and Stability</i> , 2022, 201, 109972.	5.8	6
62	Titania Nanobelts as a Scattering Layer with Cu ₂ ZnSnS ₄ as a Counter Electrode for DSSC with Improved Efficiency. <i>Materials Today: Proceedings</i> , 2018, 5, 23351-23357.	1.8	5
63	Synthesis and characterization of magnetic semiconducting Cu ₂ CoSnS ₄ nanoparticles. <i>AIP Conference Proceedings</i> , 2015, , .	0.4	4
64	Mechanism of Formation of Faceted Titania Nanoparticles from Anodized Titania Nanotubes. <i>Journal of Physical Chemistry C</i> , 2015, 119, 9574-9579.	3.1	4
65	Hole transport layer free stable perovskite solar cell with low temperature processed carbon electrodes. , 2019, , .		4
66	All Room-Temperature-Processed Carbon-Based Flexible Perovskite Solar Cells with TiO ₂ Electron Collection Layer. <i>Energy Technology</i> , 2022, 10, .	3.8	4
67	Solution processed Cu ₂ NiSnS ₄ nanoparticles: Potential absorber material for thin film solar cells. , 2015, , .		3
68	Platinum and Transparent Conducting Oxide Free Graphene-CNT Composite Based Counter-Electrodes for Dye-Sensitized Solar Cells. <i>Surface Engineering and Applied Electrochemistry</i> , 2019, 55, 472-480.	0.8	3
69	Determination of Crystallinity, Composition, and Thermal stability of Ethylene Vinyl Acetate Encapsulant used for PV Module Lamination. , 2019, , .		3
70	Simple electrochemical synthesis of black metal oxides for enhanced visible light absorption. <i>Materials Letters</i> , 2014, 130, 131-134.	2.6	2
71	Multipodal formation of TiO ₂ nanotubes using anodization. <i>AIP Conference Proceedings</i> , 2019, , .	0.4	2
72	Determination of Crystallinity and Thermal Stability of Newly Developed Thermoplastic Polyolefin Encapsulant for the c-Si PV Module Application. , 2019, , .		2

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73	Conventional or Microwave Sintering: A Comprehensive Investigation to Achieve Efficient Clean Energy Harvesting. Energies, 2020, 13, 6208.	3.1	2
74	Impact of different brush designs in robotic cleaning on the degradation of anti-soiling coatings. , 2021, , .		2
75	Facile Synthesis of Cu ₂ ZnSnS ₄ Nanoparticles by Thermal Decomposition Process and Application in Dye-Sensitized Solar Cells. Advanced Science Letters, 2016, 22, 1026-1028.	0.2	2
76	Fabrication of low cost Cu$_{2}$$ZnSnS_{4}$ based counter electrode for dye sensitized solar cells. , 2014, , .		1
77	Synthesis of Cu ₂ ZnSnS ₄ nanoparticles by solution based solid state reaction process and its application in dye sensitized solar cell as counter electrode. , 2014, , .		1
78	Fabrication of dye sensitized solar cells with cost-effective quaternary sulfide counter electrode. , 2014, , .		1
79	Palladium and platinum-palladium bi-layer based counter electrode for dye-sensitized solar cells with modified photoanode. AIP Conference Proceedings, 2015, , .	0.4	1
80	Study of structural, optical and electrical properties of solution processed Cu ₂ CoSnS ₄ absorber layer for thin film solar cells. , 2015, , .		1
81	Influence of TiCl ₄ precursor in hydrothermal synthesis of TiO ₂ nanostructures. AIP Conference Proceedings, 2017, , .	0.4	1
82	Synthesis and Photoresponse of Cu ₂ CoSnS ₄ (CCoTS) Nanoparticles. Advanced Science Letters, 2016, 22, 1067-1070.	0.2	1
83	Synthesis and Characterization of Cu ₂ NiSnS ₄ Nanoparticles for Photovoltaic Applications. Advanced Science Letters, 2016, 22, 1038-1041.	0.2	1
84	Synthesis of highly crystalline ‘particle in tube’ TiO$_{2}$ nanostructures and its application in dye sensitized solar cells. , 2014, , .		0
85	Study of optimization of Zn salt concentration in co-electrodeposited Cu$_{2}$$ZnSnS_{4}$ (CZTS) thin films. , 2014, , .		0
86	Synthesis of dendritic-flowers of wurtzite Cu ₂ ZnSnS ₄ via solvothermal process. AIP Conference Proceedings, 2017, , .	0.4	0
87	Correlating the Hot Spots and Power Degradation seen in crystalline silicon modules in All India Survey of PV Module Reliability 2018. , 2019, , .		0
88	Fabrication Of Cost Effective Pt And FTO-Free Counter Electrode For ZnO Based Dye Sensitized Solar Cell Using Thermally Decomposed Cu ₂ ZnSnS ₄ Nanoparticles. Advanced Materials Letters, 2016, 7, 861-865.	0.6	0