Rahul Singhal

List of Publications by Year
in descending order

61 papers	856 citations	471509 17 h-index	526287 27 g-index
62 all docs	62 docs citations	62 times ranked	1224 citing authors

#	Article	IF	Citations
1	Enhanced room temperature ferromagnetism and green photoluminescence in Cu doped ZnO thin film synthesised by neutral beam sputtering. Scientific Reports, 2019, 9, 6675.	3.3	86
2	Comparative study on the photovoltaic characteristics of Aâ€“Dâ€“A and Dâ€“Aâ€“D molecules based on Zn-porphyrin; a Dâ€“Aâ€“D molecule with over 8.0% efficiency. Journal of Materials Chemistry A, 2017, 5, 1057-1065.	10.3	49
3	A non-fullerene all small molecule solar cell constructed with a diketopyrrolopyrrole-based acceptor having a power conversion efficiency higher than 9% and an energy loss of 0.54 eV. Journal of Materials Chemistry A, 2018, 6, 11714-11724.	10.3	49
4	Thickness dependent phase transformation of magnetron-sputtered Niâ€“Mnâ€“Sn ferromagnetic shape memory alloy thin films. Journal of Nanoparticle Research, 2011, 13, 3975-3990.	1.9	44
5	Efficient Polymer Solar Cells with High Open-Circuit Voltage Containing Diketopyrrolopyrrole-Based Non-Fullerene Acceptor Core End-Capped with Rhodanine Units. ACS Applied Materials & Interfaces, 2017, 9, 11739-11748.	8.0	43
6	Electronic excitation induced controlled modifications of semiconductor-to-metal transition in epitaxial VO₂ thin films. Journal of Materials Research, 2011, 26, 2901-2906.	2.6	41
7	Unprecedented low energy losses in organic solar cells with high external quantum efficiencies by employing non-fullerene electron acceptors. Journal of Materials Chemistry A, 2017, 5, 14887-14897.	10.3	38
8	Swift heavy ion induced modifications of fullerene C70 thin films. Nuclear Instruments & Methods in Physics Research B, 2008, 266, 3257-3262.	1.4	37
9	Corrole-BODIPY Dyad as Small-Molecule Donor for Bulk Heterojunction Solar Cells. ACS Applied Materials & Interfaces, 2018, 10, 31462-31471.	8.0	36
10	Porphyrin based pushâ€“pull conjugates as donors for solution-processed bulk heterojunction solar cells: a case of metal-dependent power conversion efficiency. Journal of Materials Chemistry A, 2017, 5, 15529-15533.	10.3	21
11	Morphology Controlled CuO Nanostructures for Efficient Catalytic Reduction of 4-Nitrophenol. Catalysis Letters, 2020, 150, 471-481.	2.6	21
12	Ternary Organic Solar Cell with a Nearâ€Infrared Absorbing Selenopheneâ€“Diketopyrrolopyrroleâ€Based Nonfullerene Acceptor and an Efficiency above 10%. Solar Rrl, 2020, 4, 1900471.	5.8	21
13	Efficient Fullerene-Free Organic Solar Cells Using a Coumarin-Based Wide-Band-Gap Donor Material. ACS Applied Materials & Interfaces, 2020, 12, 41869-41876.	8.0	21
14	Reduced Energy Offsets and Low Energy Losses Lead to Efficient (âˆ¼10% at 1 sun) Ternary Organic Solar Cells. ACS Energy Letters, 2018, 3, 2418-2424.	17.4	20
15	Studies on Carbon Nanotubes and Fullerenes Under Extreme Conditions. Journal of Nanoscience and Nanotechnology, 2010, 10, 3767-3779.	0.9	19
16	Ni-Porphyrin-based small molecule for efficient organic solar cells (>9.0%) with a high open circuit voltage of over 1.0 V and low energy loss. Chemical Communications, 2018, 54, 14144-14147.	4.1	19
17	Energy-level modulation of coumarin-based molecular donors for efficient all small molecule fullerene-free organic solar cells. Journal of Materials Chemistry A, 2021, 9, 1563-1573.	10.3	18
18	Development of nanocomposites of bentonite with polyaniline and poly(methacrylic acid). Journal of Applied Polymer Science, 2007, 103, 3299-3306.	2.6	17

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19	Fullerene/Non-fullerene Alloy for High-Performance All-Small-Molecule Organic Solar Cells. ACS Applied Materials & Interfaces, 2021, 13, 6461-6469.	8.0	17
20	Low Energy Loss of 0.57 eV and High Efficiency of 8.80% in Porphyrin-Based BHJ Solar Cells. ACS Applied Energy Materials, 2018, 1, 1304-1315.	5.1	15
21	The influence of the terminal acceptor and oligomer length on the photovoltaic properties of Aâ€“Dâ€“A small molecule donors. Journal of Materials Chemistry C, 2020, 8, 4763-4770.	5.5	15
22	Modulation of the power conversion efficiency of organic solar cells <i>via</i> architectural variation of a promising non-fullerene acceptor. Journal of Materials Chemistry A, 2018, 6, 574-582.	10.3	13
23	Ternary Allâ€Smallâ€Molecule Solar Cells with Two Smallâ€Molecule Donors and Y6 Nonfullerene Acceptor with a Power Conversion Efficiency over Above 14% Processed from a Nonhalogenated Solvent. Solar Rrl, 2020, 4, 2000460.	5.8	13
24	Studies on the development of biodegradable poly(HEMA)/Cloisite nanocomposites. Polymer Composites, 2009, 30, 887-890.	4.6	12
25	Enhancement of photovoltaic efficiency through fine adjustment of indaceneâ€based nonâ€fullerene acceptor by minimal chlorination for polymer solar cells. Nano Select, 2020, 1, 320-333.	3.7	11
26	Microcontroller Based Polyhouse Automation Controller. , 2010, , .		10
27	Fieldâ€Assisted Sensitivity Amplification in a Noble Metal Nanoparticle Decorated WO₃/GO Hybrid FETâ€Based Multisensory Array for Selective Detection of Breath Acetone. ChemNanoMat, 2022, 8, .	2.8	10
28	New Medium Bandgap Donor Dâ€A₁â€Dâ€A₂ Type Copolymers Based on Anthra[1,2â€b: 4,3â€bâ€œ:6,7â€câ€•] Trithiopheneâ€8,12â€dione Groups for Highâ€Efficient Nonâ€Fullerene Polymer Solar Cells. Macromolecular Rapid Communications, 2022, 43, e2100839.	3.9	9
29	Synthesis and characterization of novel poly(<i>o</i>â€toluidine) montmorillonite nanocomposites: Effect of surfactant on intercalation. Journal of Applied Polymer Science, 2007, 106, 1909-1916.	2.6	8
30	Low Energy Gap Triphenylamineâ€“Heteropentaceneâ€“Dicyanovinyl Triad for Solution-Processed Bulk-Heterojunction Solar Cells. Journal of Physical Chemistry C, 2018, 122, 11262-11269.	3.1	8
31	Highly efficient ternary polymer solar cell with two non-fullerene acceptors. Solar Energy, 2020, 199, 530-537.	6.1	8
32	Large Tuning of Surface Plasmon Resonance of Auâ€“Fullerene Nanocomposite. Electronic Materials Letters, 2019, 15, 111-118.	2.2	7
33	Edge plane pyrolytic graphite as a sensing surface for the determination of fluvoxamine in urine samples of obsessive-compulsive disorder patients. Biosensors and Bioelectronics, 2020, 168, 112489.	10.1	7
34	Fullerene-Free All-Small-Molecule Ternary Organic Solar Cells with Two Compatible Fullerene-Free Acceptors and a Coumarin Donor Enabling a Power Conversion Efficiency of 14.5%. ACS Applied Energy Materials, 2021, 4, 11537-11544.	5.1	7
35	Tuning the antimicrobial efficacy of nano-Ca(OH)2 against E. coli using molarity. Journal of Materials Science, 2022, 57, 8241-8261.	3.7	7
36	High-Efficiency Ternary Organic Solar Cells Enabled by Synergizing Dicyanomethylene-Functionalized Coumarin Donors and Fullerene-Free Acceptors. ACS Applied Energy Materials, 2022, 5, 9020-9030.	5.1	7

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37	Receding horizon based greenhouse air temperature control using grey wolf optimization algorithm. , 2016, , .		6
38	Effect of concentration on lattice strain, dielectric properties and activation energy of CoFe2O4/BaTiO3 nanocomposites. Applied Physics A: Materials Science and Processing, 2021, 127, 1.	2.3	6
39	Study on copperâ€“fullerene nanocomposite irradiated by 120â€¯MeV Au ions. Radiation Physics and Chemistry, 2018, 151, 276-282.	2.8	5
40	Investigation of C60 and C70 fullerenes under low energy ion impact. Journal of Materials Science: Materials in Electronics, 2018, 29, 14762-14773.	2.2	5
41	Surface patterning of high density polyethylene by oblique argon ion irradiation. Journal of Applied Physics, 2019, 126, .	2.5	5
42	Reducing Energy Loss in Organic Solar Cells by Changing the Central Metal in Metalloporphyrins. ChemSusChem, 2021, 14, 3494-3501.	6.8	5
43	Receding horizon control based on prioritised multi-operational ranges for greenhouse environment regulation. Computers and Electronics in Agriculture, 2021, 180, 105840.	7.7	5
44	Effect of annealing and swift heavy ions irradiation on vanadium oxide thin films. Radiation Effects and Defects in Solids, 2021, 176, 673-680.	1.2	5
45	Effect of Molarity on Methylene Blue Dye Removal Efficacy of Nano Ca(OH)₂. ChemistrySelect, 2022, 7, .	1.5	5
46	Effect of crystallographic orientation on structural and mechanical behaviors of Niâ€“Ti thin films irradiated by Ag7+ ions. Applied Physics A: Materials Science and Processing, 2018, 124, 1.	2.3	4
47	3D trajectory tracking for a quadcopter using MPC on a 3D terrain. , 2015, , .		3
48	Microâ€morphological investigations on wettability of Alâ€incorporated <i>c</i>â€Si thin films using statistical surface roughness parameters. Surface and Interface Analysis, 2022, 54, 174-186.	1.8	3
49	Shortest Path Evaluation with Enhanced Linear Graph and Dijkstra Algorithm. , 2020, , .		3
50	Synthesis of Ag metallic nanoparticles by 120â€‰keV Agâˆ’ ion implantation in TiO2 matrix. Radiation Effects and Defects in Solids, 2017, 172, 896-902.	1.2	2
51	Adaptive Reference Receding Horizon Control of Greenhouse. , 2019, , .		2
52	Discretization schemes Comparison for the Greenhouse Temperature Model. , 2018, , .		1
53	Receding Horizon Control of Naturally Ventilated Greenhouse with Rooftop Wind Turbine. , 2018, , .		1
54	Phase transformation by the irradiation with swift heavy ions on vanadium oxide thin films. Radiation Effects and Defects in Solids, 2020, 175, 450-457.	1.2	1

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55	Enhancing Non-linear Response of Fullerene via Incorporation of Gold Nanoparticles. Plasmonics, 2020, 15, 361-370.	3.4	1
56	Nonclassical nature of thermal quantum states in the oscillating FRW Universe. European Physical Journal Plus, 2021, 136, 1.	2.6	1
57	Robust Shortest Path Planning for Aircraft using Bounded Region Voronoi Diagram. , 2020, , .		1
58	Trajectory Tracking based on Adaptive Weights Receding Horizon Control by Differential Drive Robot. , 2020, , .		1
59	Receding Horizon Control of Greenhouse Integrated with Fogger and Rooftop Wind Turbine. , 2018, , .		0
60	Ternary Allâ€Smallâ€Molecule Solar Cells with Two Smallâ€Molecule Donors and Y6 Nonfullerene Acceptor with a Power Conversion Efficiency over Above 14% Processed from a Nonhalogenated Solvent. Solar Rrl, 2020, 4, 2070115.	5.8	0
61	Multi-objective re-tuning of nonlinear model for degrading greenhouse. Progress in Artificial Intelligence, 2021, 10, 37-48.	2.4	0