Jai Singh

List of Publications by Year
in descending order

63 papers	811 citations	567281 15 h-index	610901 24 g-index
107 all docs	107 docs citations	107 times ranked	841 citing authors

#	Article	IF	Citations
1	Sources of Thermal Power Generation and Their Influence on the Operating Temperature of Organic Solar Cells. Nanomaterials, 2022, 12, 420.	4.1	4
2	Optimizing Device Structure of PTB7-Th:PNDI-T10 Bulk Heterojunction Polymer Solar Cells by Enhancing Optical Absorption. Energies, 2022, 15, 711.	3.1	4
3	Intersystem and Reverse-Intersystem Crossings in Organic Light-Emitting Diodes. Journal of Physical Chemistry Letters, 2022, 13, 6177-6180.	4.6	2
4	Heat mitigation in perovskite solar cells: The role of grain boundaries. Solar Energy Materials and Solar Cells, 2021, 220, 110837.	6.2	8
5	An Alternative Approach to Simulate the Power Conversion Efficiency of Bulk Heterojunction Organic Solar Cells. Physica Status Solidi (A) Applications and Materials Science, 2021, 218, 2000597.	1.8	14
6	Characterising Exciton Generation in Bulk-Heterojunction Organic Solar Cells. Nanomaterials, 2021, 11, 209.	4.1	9
7	Operating Temperature of Nonfullerene Acceptorâ€Based Bulk Heterojunction Organic Solar Cells. Physica Status Solidi (A) Applications and Materials Science, 2021, 218, 2100255.	1.8	0
8	Over 20% Efficient and Stable Nonâ€Fullereneâ€Based Ternary Bulkâ€Heterojunction Organic Solar Cell with WS₂ Holeâ€Transport Layer and Graded Refractive Index Antireflection Coating. Advanced Theory and Simulations, 2020, 3, 2000047.	2.8	23
9	Effective mass of heavy, light, and spin split-off band electron and hole g-factor in cubic perovskite materials. Journal of Applied Physics, 2020, 128, .	2.5	5
10	Simulation of perovskite solar cell temperature under reverse and forward bias conditions. Journal of Applied Physics, 2019, 126, .	2.5	14
11	Influence of Interfacial Traps on the Operating Temperature of Perovskite Solar Cells. Materials, 2019, 12, 2727.	2.9	12
12	Influence of Urbach Energy, Temperature, and Longitudinal Position in the Active Layer on Carrier Diffusion Length in Perovskite Solar Cells. ChemPhysChem, 2019, 20, 2712-2717.	2.1	41
13	Combined influence of Urbachâ€™s tail width energy and mobility of charge carriers on the photovoltaic performance of bulk heterojunction organic solar cells. Journal of Materials Science: Materials in Electronics, 2019, 30, 10064-10072.	2.2	8
14	Highly Efficient and Stable Solar Cells with Hybrid of Nanostructures and Bulk Heterojunction Organic Semiconductors. Advanced Theory and Simulations, 2019, 2, 1900030.	2.8	8
15	Omnidirectional and Broadband Light Absorption Enhancement in 2-D Photonic-Structured Organic Solar Cells. ACS Photonics, 2018, 5, 1144-1150.	6.6	44
16	Study of processes of reverse intersystem crossing (RISC) and thermally activated delayed fluorescence (TADF) in organic light emitting diodes (OLEDs). Organic Electronics, 2018, 59, 121-124.	2.6	23
17	A versatile solution-processed MoO3/Au nanoparticles/MoO3 hole contact for high performing PEDOT:PSS-free organic solar cells. Organic Electronics, 2018, 52, 1-6.	2.6	19
18	Profiling exciton generation and recombination in conventional and inverted bulk heterojunction organic solar cells. Journal of Applied Physics, 2018, 124, .	2.5	20

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19	High open-circuit voltage in perovskite solar cells: The role of hole transport layer. Organic Electronics, 2018, 63, 104-108.	2.6	33
20	Influence of charge carrier extraction parameters on the performance of bulk heterojunction organic solar cells. Journal of Materials Science: Materials in Electronics, 2018, 29, 13354-13360.	2.2	2
21	Optimization of photocurrent in bulk heterojunction organic solar cells using optical admittance analysis method. Journal of Materials Science: Materials in Electronics, 2017, 28, 7100-7106.	2.2	6
22	Photovoltaic contribution of photo-generated excitons in acceptor material of organic solar cells. Journal of Materials Science: Materials in Electronics, 2017, 28, 7070-7076.	2.2	10
23	Dissociation of charge transfer excitons at the donorâ€"acceptor interface in bulk heterojunction organic solar cells. Journal of Materials Science: Materials in Electronics, 2017, 28, 7095-7099.	2.2	24
24	Dependence of Exciton Diffusion Length and Diffusion Coefficient on Photophysical Parameters in Bulk Heterojunction Organic Solar Cells. Journal of Electronic Materials, 2017, 46, 6451-6460.	2.2	21
25	Study of the Contributions of Donor and Acceptor Photoexcitations to Open Circuit Voltage in Bulk Heterojunction Organic Solar Cells. Electronics (Switzerland), 2017, 6, 75.	3.1	14
26	Comparative contributions of singlet and triplet excitons in the performance of organic devices. Physica Status Solidi C: Current Topics in Solid State Physics, 2016, 13, 77-80.	0.8	3
27	Study of intersystem crossing mechanism in organic materials. Physica Status Solidi C: Current Topics in Solid State Physics, 2016, 13, 89-92.	0.8	8
28	Charge-carrier-mobility-dependent-open-circuit-voltage-in-organic-and-hybrid-solar-cells. Frontiers in Nanoscience and Nanotechnology, 2016, 2, .	0.3	11
29	A Theoretical Study on the Operation Principle of Hybrid Solar Cells. Electronics (Switzerland), 2015, 4, 303-310.	3.1	7
30	Diffusion Length and Langevin Recombination of Singlet and Triplet Excitons in Organic Heterojunction Solar Cells. ChemPhysChem, 2015, 16, 1281-1285.	2.1	15
31	Influence of Excitonic Processes in the Energy Resolution of Scintillators. Springer Series in Materials Science, 2015, , 157-192.	0.6	2
32	Diffusion of excitons in materials for optoelectronic device applications. Journal of Physics: Conference Series, 2015, 619, 012030.	0.4	1
33	Excitonic Processes in Organic Semiconductors and Their Applications in Organic Photovoltaic and Light Emitting Devices. Springer Series in Materials Science, 2015, , 229-251.	0.6	6
34	Electronic Properties of Noncrystalline Semiconductors. Springer Series in Materials Science, 2015, , 193-228.	0.6	0
35	Exciton dissociation and design optimization in P3HT:PCBM bulk-heterojunction organic solar cell. Canadian Journal of Physics, 2014, 92, 853-856.	1.1	5
36	Exciton dissociation and design optimization in hybrid organic solar cells. , 2014, , .		1

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37	Effect of Time-Dependent Local Excitonic Concentration in the Track on Nonproportionality in Light Yield of Inorganic Scintillators. IEEE Transactions on Nuclear Science, 2014, 61, 252-256.	2.0	5
38	Effect of exciton-spin-orbit-photon interaction in the performance of organic solar cells. European Physical Journal B, 2013, 86, 1.	1.5	10
39	Excitonic processes and their contribution to nonproportionality observed in the light yield of inorganic scintillators. European Physical Journal B, 2013, 86, 1.	1.5	3
40	Study of the mechanism and rate of exciton dissociation at the donor-acceptor interface in bulk-heterojunction organic solar cells. Journal of Applied Physics, 2013, 114, .	2.5	56
41	Effect of simultaneous excitation of singlet and triplet excitons on the operation of organic solar cells. Journal of Applied Physics, 2013, 114, .	2.5	22
42	Nanomaterials for Light Management in Electro-Optical Devices. Journal of Nanomaterials, 2012, 2012, 1-2.	2.7	4
43	Recipe for attaining optimal energy resolution in inorganic scintillators. Physica Status Solidi C: Current Topics in Solid State Physics, 2012, 9, 2226-2230.	0.8	1
44	Roles of binding energy and diffusion length of singlet and triplet excitons in organic heterojunction solar cells. Physica Status Solidi C: Current Topics in Solid State Physics, 2012, 9, 2386-2389.	0.8	45
45	Designing an optimally proportional inorganic scintillator. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2012, 685, 25-28.	1.6	8
46	Role of Nonlinear Excitation Quenching Processes and Carrier Diffusion on the Nonproportionality of Light Yield in Scintillators. IEEE Transactions on Nuclear Science, 2012, 59, 2045-2051.	2.0	9
47	Capturing triplet emission in white organic light emitting devices. Physica Status Solidi (A) Applications and Materials Science, 2011, 208, 1809-1812.	1.8	11
48	Towards developing a tandem of organic solar cell and light emitting diode. Physica Status Solidi C: Current Topics in Solid State Physics, 2011, 8, 189-192.	0.8	1
49	Study of nonproportionality in the light yield of inorganic scintillators. Journal of Applied Physics, 2011, 110, .	2.5	24
50	Study of organic light emitting devices (OLEDs) with optimal emission effi- ciency. Physica Status Solidi C: Current Topics in Solid State Physics, 2010, 7, NA-NA.	0.8	13
51	Radiative lifetime of triplet excitation recombinations mediated by spinâ€“photon interaction in semiconductors. Journal of Materials Science: Materials in Electronics, 2009, 20, 81-86.	2.2	3
52	Light emission from dark excitons in light emitting devices. Physica Status Solidi (A) Applications and Materials Science, 2009, 206, 993-996.	1.8	2
53	Radiative emission from triplet excitations in light emitting devices. Physica Status Solidi C: Current Topics in Solid State Physics, 2009, 6, 101-104.	0.8	0
54	A direct approach to study radiative emission from triplet excitations in molecular semiconductors and conjugated polymers. Journal of Chemical Physics, 2008, 129, 041103.	3.0	16

#	Article	IF	Citations
55	Radiative recombination and lifetime of a triplet excitation mediated by spin-orbit coupling in amorphous semiconductors. Physical Review B, 2007, 76, .	3.2	22
56	Photo-structural changes in chalcogenide glasses during illumination. Journal of Materials Science: Materials in Electronics, 2007, 18, 423-428.	2.2	6
57	Radiative lifetime of geminate and non-geminate pairs in amorphous semiconductors: a-Ge:H. Physica Status Solidi C: Current Topics in Solid State Physics, 2006, 3, 3378-3381.	0.8	2
58	Photoexcitation-induced processes in amorphous semiconductors. Applied Surface Science, 2005, 248, 50-55.	6.1	1
59	Radiative lifetime of excitonic photoluminescence in amorphous semiconductors. Journal of Applied Physics, 2005, 97, 063516.	2.5	17
60	A quantum approach to photodarkening in chalcogenides. Journal of Non-Crystalline Solids, 2005, 351, 1582-1585.	3.1	4
61	Acoustic-phonon-assisted localization of free excitons due to interface roughness in quantum wells. Journal of Applied Physics, 2004, 95, 4883-4889.	2.5	2
62	Excitonic contribution to photoluminescence in amorphous semiconductors. The Philosophical Magazine: Physics of Condensed Matter B, Statistical Mechanics, Electronic, Optical and Magnetic Properties, 2002, 82, 855-871.	0.6	13
63	Drastic reduction in band gap due to pairing of carriers and exciton-lattice interaction in non-metallic solids. Chemical Physics Letters, 1988, 149, 447-450.	2.6	11