

Rana Biswas

List of Publications by Year in descending order

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65
papers

1,207
citations

471061

17
h-index

377514

34
g-index

67
all docs

67
docs citations

67
times ranked

1564
citing authors

#	ARTICLE	IF	CITATIONS
1	Photonic crystal enhanced light-trapping in thin film solar cells. Journal of Applied Physics, 2008, 103, .	1.1	305
2	A photonic-plasmonic structure for enhancing light absorption in thin film solar cells. Applied Physics Letters, 2011, 99, .	1.5	102
3	Photonic crystal based back reflectors for light management and enhanced absorption in amorphous silicon solar cells. Applied Physics Letters, 2009, 95, .	1.5	83
4	Light management in perovskite solar cells and organic LEDs with microlens arrays. Optics Express, 2017, 25, 10704.	1.7	72
5	Nano-crystalline silicon solar cell architecture with absorption at the classical $4n^2$ limit. Optics Express, 2011, 19, A664.	1.7	62
6	Nano-Photonic Structures for Light Trapping in Ultra-Thin Crystalline Silicon Solar Cells. Nanomaterials, 2017, 7, 17.	1.9	46
7	Nanophotonic Organic Solar Cell Architecture for Advanced Light Trapping with Dual Photonic Crystals. ACS Photonics, 2014, 1, 840-847.	3.2	39
8	Ab Initio Simulation of Charge Transfer at the Semiconductor Quantum Dot/TiO ₂ Interface in Quantum Dot-Sensitized Solar Cells. Particle and Particle Systems Characterization, 2015, 32, 80-90.	1.2	33
9	Tunable Near UV Microcavity OLED Arrays: Characterization and Analytical Applications. Advanced Functional Materials, 2015, 25, 1226-1232.	7.8	32
10	Enhanced Light Extraction from OLEDs Fabricated on Patterned Plastic Substrates. Advanced Optical Materials, 2018, 6, 1701244.	3.6	31
11	Reducing optical losses in organic solar cells using microlens arrays: theoretical and experimental investigation of microlens dimensions. Physical Chemistry Chemical Physics, 2015, 17, 3723-3730.	1.3	25
12	Add-drop filters in three-dimensional layer-by-layer photonic crystals using waveguides and resonant cavities. Applied Physics Letters, 2006, 89, 231103.	1.5	23
13	Replica molding-based nanopatterning of tribocharge on elastomer with application to electrohydrodynamic nanolithography. Nature Communications, 2018, 9, 974.	5.8	23
14	MoO ₃ as combined hole injection layer and tapered spacer in combinatorial multicolor microcavity organic light emitting diodes. Applied Physics Letters, 2011, 99, .	1.5	22
15	Simulation and modelling of photonic and plasmonic crystal back reflectors for efficient light trapping. Physica Status Solidi (A) Applications and Materials Science, 2010, 207, 667-670.	0.8	21
16	Atomic Pathways Underlying Light-Induced Changes in Organic Solar Cell Materials. Journal of Physical Chemistry C, 2015, 119, 20265-20271.	1.5	21
17	Visible Frequency Thin Film Photonic Crystals from Colloidal Systems of Nanocrystalline Titania and Polystyrene Microspheres. Journal of the American Ceramic Society, 2002, 85, 1383-1386.	1.9	20
18	Extraordinary optical transmission in nanopatterned ultrathin metal films without holes. Nanoscale, 2016, 8, 4657-4666.	2.8	20

#	ARTICLE	IF	CITATIONS
19	Photoluminescence Enhancement of CuInS ₂ Quantum Dots in Solution Coupled to Plasmonic Gold Nanocup Array. <i>Small</i> , 2017, 13, 1700660.	5.2	17
20	Antioxidant and anti-inflammatory activity of <i>Heritiera fomes</i> (Buch.-Ham), a mangrove plant of the Sundarbans. <i>Advances in Traditional Medicine</i> , 2020, 20, 189-197.	1.0	17
21	Simulation of hydrogen evolution from nano-crystalline silicon. <i>Journal of Non-Crystalline Solids</i> , 2004, 333, 44-47.	1.5	16
22	Blue photon management by inhouse grown ZnO:Al cathode for enhanced photostability in polymer solar cells. <i>Solar Energy Materials and Solar Cells</i> , 2018, 179, 95-101.	3.0	16
23	Nanoscale patterning of biopolymers for functional biosurfaces and controlled drug release. <i>Nanoscale</i> , 2016, 8, 18654-18664.	2.8	15
24	High Light Outcoupling Efficiency from Periodically Corrugated OLEDs. <i>ACS Omega</i> , 2021, 6, 9291-9301.	1.6	15
25	Enhancing Light-trapping and Efficiency of Solar Cells with Photonic Crystals. <i>Materials Research Society Symposia Proceedings</i> , 2007, 989, 2.	0.1	14
26	Nanoscale Modulation of Friction and Triboelectrification via Surface Nanotexturing. <i>Nano Letters</i> , 2019, 19, 850-856.	4.5	11
27	Nano-photonic light trapping near the Lambertian limit in organic solar cell architectures. <i>Optics Express</i> , 2013, 21, A841.	1.7	10
28	Spatial-temporal spectroscopy characterizations and electronic structure of methylammonium perovskites. <i>MRS Communications</i> , 2018, 8, 961-969.	0.8	10
29	Photonic and plasmonic crystal based enhancement of solar cells – Theory of overcoming the Lambertian limit. <i>Journal of Non-Crystalline Solids</i> , 2012, 358, 2289-2294.	1.5	9
30	Unusual infrared absorption increases in photo-degraded organic films. <i>Nanoscale</i> , 2017, 9, 8665-8673.	2.8	8
31	Waveguide circuits in three-dimensional photonic crystals. <i>Photonics and Nanostructures - Fundamentals and Applications</i> , 2008, 6, 134-141.	1.0	7
32	Enhancement of solar cells with photonic and plasmonic crystals - overcoming the Lambertian limit. <i>Journal of Materials Research</i> , 2013, 28, 1021-1030.	1.2	7
33	A framework for glass-box physics rule learner and its application to nano-scale phenomena. <i>Communications Physics</i> , 2020, 3, .	2.0	6
34	Comparison of optical properties of periodic photonic-plasmonic and randomly textured back reflectors for nc-Si solar cells. <i>Journal of Non-Crystalline Solids</i> , 2012, 358, 2313-2318.	1.5	5
35	Stability and temporal decay of nanopatterned tribocharge on nanotextured elastomer surfaces. <i>Nano Energy</i> , 2021, 79, 105441.	8.2	5
36	Utilizing Wide Band Gap, High Dielectric Constant Nanoparticles as Additives in Organic Solar Cells. <i>Journal of Physical Chemistry C</i> , 2015, 119, 23883-23889.	1.5	4

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37	Defects in SiC for Quantum Computing. MRS Advances, 2019, 4, 2217-2222.	0.5	4
38	Antioxidant and antibacterial activity of three herbs belonging to Zingiber genus of Bangladesh. Advances in Traditional Medicine, 2020, 20, 343-350.	1.0	4
39	Simulation of enhanced light extraction from periodic, disordered, and quasi-periodic OLED structures. Journal of the Optical Society of America B: Optical Physics, 2021, 38, C144.	0.9	4
40	Concordance of antioxidant and anti-inflammatory activity in Xylocarpus granatum (Koen). Journal of the Bangladesh Agricultural University, 2019, 17, 466-475.	0.1	3
41	Antioxidant, Anti-inflammatory, and Anticoagulation Properties of Aegiceras corniculatum and Acanthus ilicifolius. Pharmaceutical and Biomedical Research, 0, , .	0.3	3
42	Mechano-Triboelectric Analysis of Surface Charge Generation on Replica-Molded Elastomeric Nanodomes. Micromachines, 2021, 12, 1460.	1.4	3
43	Fabrication of Photonic Crystal based Back Reflectors for Light Management and Enhanced Absorption in Amorphous Silicon Solar Cells. Materials Research Society Symposia Proceedings, 2009, 1153, 1.	0.1	2
44	High Temperature Plasmonic Photonic Crystal MEMS Emitter. Materials Research Society Symposia Proceedings, 2009, 1162, 1.	0.1	2
45	Nano-photonic organic solar cell architecture for advanced light management utilizing dual photonic crystals. Proceedings of SPIE, 2015, , .	0.8	2
46	Investigation of Antibacterial, Cytotoxic and Antioxidant Properties of the Mangrove Plant <i>Xylocarpus mekongensis</i>. Advances in Bioscience and Biotechnology (Print), 2016, 07, 205-213.	0.3	2
47	Simulation of Realistic Core-shell Silicon Nanowires. Materials Research Society Symposia Proceedings, 2006, 910, 4.	0.1	1
48	Improved Photon Absorption in a-Si:H Solar Cells using Photonic Crystal Architectures. Materials Research Society Symposia Proceedings, 2008, 1066, 1.	0.1	1
49	Harvesting Photons in Thin Film Solar Cells with Photonic Crystals. Materials Research Society Symposia Proceedings, 2008, 1101, 1.	0.1	1
50	Light-trapping in Thin Film Silicon Solar Cells with a Combination of Periodic and Randomly Textured Back-reflectors. Materials Research Society Symposia Proceedings, 2012, 1426, 117-123.	0.1	1
51	Infrared emission of a freestanding plasmonic membrane. Applied Physics Letters, 2018, 112, .	1.5	1
52	Quantum size effects and tunable visible photoluminescence in a-Si:H/nc-Si:H superlattices. Journal of Materials Science: Materials in Electronics, 2019, 30, 4696-4704.	1.1	1
53	Simulations of Sub-wavelength Metallo-dielectric Photonic Crystals for Gas Sensing. Materials Research Society Symposia Proceedings, 2006, 952, 2.	0.1	0
54	Theory of Thermal Emissivity and Enhanced Absorption in Sub-wavelength Metallo-Dielectric Photonic Crystals. Materials Research Society Symposia Proceedings, 2007, 1014, 1.	0.1	0

#	ARTICLE	IF	CITATIONS
55	Enhanced photon harvesting in a-Si:H solar cells with photonic crystals. Conference Record of the IEEE Photovoltaic Specialists Conference, 2008, , .	0.0	0
56	Sharp Absorption and High Temperature Thermal Emission from Simple Metallic Photonic Crystals. Materials Research Society Symposia Proceedings, 2009, 1162, 1.	0.1	0
57	Enhanced Absorption in Amorphous Silicon Solar Cells Using Plasmonic and Photonic Crystals â€™ Measurement and Simulation. Materials Research Society Symposia Proceedings, 2010, 1248, 503.	0.1	0
58	Photonic Crystal Back Reflectors for Enhanced Absorption in Amorphous Silicon Solar Cells. Materials Research Society Symposia Proceedings, 2010, 1245, 1.	0.1	0
59	Photonic and plasmonic crystal based enhancement of solar cells- overcoming the Lambertian classical 4n ² limit. Materials Research Society Symposia Proceedings, 2012, 1426, 137-147.	0.1	0
60	Utilizing microsphere-based enhanced-intensity laser ablation for nanopatterning polymers. , 2017, , .		0
61	Plasmonic Enhancement: Photoluminescence Enhancement of CuInS ₂ Quantum Dots in Solution Coupled to Plasmonic Gold Nanocup Array (Small 33/2017). Small, 2017, 13, .	5.2	0
62	Bioactivity analysis of <i>Sarcolobus globosus</i> Wall., a mangrove plant of the Sundarbans. Journal of the Bangladesh Agricultural University, 2019, 17, 476-482.	0.1	0
63	(Invited) Novel Optical Phenomena in Nanoplasmonic Arrays. ECS Meeting Abstracts, 2020, MA2020-01, 1082-1082.	0.0	0
64	Assessment of Antioxidant, Antibacterial, and Preliminary Cytotoxic Properties of <i>Brownlowia Torsa</i> . Journal of Herbs, Spices and Medicinal Plants, 0, , 1-14.	0.5	0
65	(Invited) Enhancement of Light Emission in Luminescent Structures within Nano-Arrays. ECS Meeting Abstracts, 2022, MA2022-01, 1087-1087.	0.0	0