

Pabitra K Nayak

List of Publications by Year in descending order

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74
papers

6,301
citations

109321

35
h-index

118850

62
g-index

78
all docs

78
docs citations

78
times ranked

9738
citing authors

#	ARTICLE	IF	CITATIONS
1	Photovoltaic solar cell technologies: analysing the state of the art. <i>Nature Reviews Materials</i> , 2019, 4, 269-285.	48.7	727
2	Enhanced optoelectronic quality of perovskite thin films with hypophosphorous acid for planar heterojunction solar cells. <i>Nature Communications</i> , 2015, 6, 10030.	12.8	620
3	A piperidinium salt stabilizes efficient metal-halide perovskite solar cells. <i>Science</i> , 2020, 369, 96-102.	12.6	461
4	Efficient perovskite solar cells by metal ion doping. <i>Energy and Environmental Science</i> , 2016, 9, 2892-2901.	30.8	372
5	Optical phonons in methylammonium lead halide perovskites and implications for charge transport. <i>Materials Horizons</i> , 2016, 3, 613-620.	12.2	299
6	Revealing the origin of voltage loss in mixed-halide perovskite solar cells. <i>Energy and Environmental Science</i> , 2020, 13, 258-267.	30.8	283
7	Structured Organic-Inorganic Perovskite toward a Distributed Feedback Laser. <i>Advanced Materials</i> , 2016, 28, 923-929.	21.0	257
8	Formation of Thin Films of Organic-Inorganic Perovskites for High-Efficiency Solar Cells. <i>Angewandte Chemie - International Edition</i> , 2015, 54, 3240-3248.	13.8	245
9	Consolidation of the optoelectronic properties of CH ₃ NH ₃ PbBr ₃ perovskite single crystals. <i>Nature Communications</i> , 2017, 8, 590.	12.8	207
10	Mechanism for rapid growth of organic-inorganic halide perovskite crystals. <i>Nature Communications</i> , 2016, 7, 13303.	12.8	191
11	Solution-Processed Cesium Hexabromopalladate(IV), Cs ₂ PdBr ₆ , for Optoelectronic Applications. <i>Journal of the American Chemical Society</i> , 2017, 139, 6030-6033.	13.7	189
12	Impact of Bi ³⁺ Heterovalent Doping in Organic-Inorganic Metal Halide Perovskite Crystals. <i>Journal of the American Chemical Society</i> , 2018, 140, 574-577.	13.7	181
13	Photovoltaic efficiency limits and material disorder. <i>Energy and Environmental Science</i> , 2012, 5, 6022.	30.8	166
14	Understanding the Performance-Limiting Factors of Cs ₂ AgBiBr ₆ Double-Perovskite Solar Cells. <i>ACS Energy Letters</i> , 2020, 5, 2200-2207.	17.4	161
15	Structural and Optical Properties of Cs ₂ AgBiBr ₆ Double Perovskite. <i>ACS Energy Letters</i> , 2019, 4, 299-305.	17.4	146
16	Calculation of electron affinity, ionization potential, transport gap, optical band gap and exciton binding energy of organic solids using a solvation model and DFT. <i>Organic Electronics</i> , 2009, 10, 1396-1400.	2.6	135
17	Overcoming Zinc Oxide Interface Instability with a Methylammonium-Free Perovskite for High-Performance Solar Cells. <i>Advanced Functional Materials</i> , 2019, 29, 1900466.	14.9	129
18	Assessing Possibilities and Limits for Solar Cells. <i>Advanced Materials</i> , 2011, 23, 2870-2876.	21.0	122

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19	Interface-Dependent Ion Migration/Accumulation Controls Hysteresis in MAPbI ₃ Solar Cells. <i>Journal of Physical Chemistry C</i> , 2016, 120, 16399-16411.	3.1	118
20	Updated Assessment of Possibilities and Limits for Solar Cells. <i>Advanced Materials</i> , 2014, 26, 1622-1628.	21.0	101
21	Isotype Heterojunction Solar Cells Using n-Type Sb ₂ Se ₃ Thin Films. <i>Chemistry of Materials</i> , 2020, 32, 2621-2630.	6.7	83
22	Shunt-Blocking Layers for Semitransparent Perovskite Solar Cells. <i>Advanced Materials Interfaces</i> , 2016, 3, 1500837.	3.7	73
23	Mode-selective vibrational modulation of charge transport in organic electronic devices. <i>Nature Communications</i> , 2015, 6, 7880.	12.8	72
24	Characterization of the Formation of Amyloid Protofibrils from Barstar by Mapping Residue-specific Fluorescence Dynamics. <i>Journal of Molecular Biology</i> , 2006, 358, 935-942.	4.2	63
25	Separating Charges at Organic Interfaces: Effects of Disorder, Hot States, and Electric Field. <i>Journal of Physical Chemistry Letters</i> , 2013, 4, 1707-1717.	4.6	63
26	Tuning of HOMO levels of carbazole derivatives: New molecules for blue OLED. <i>Synthetic Metals</i> , 2011, 161, 466-473.	3.9	62
27	Exciton binding energy in small organic conjugated molecule. <i>Synthetic Metals</i> , 2013, 174, 42-45.	3.9	62
28	Direct Observation of Ultrafast Exciton Dissociation in Lead Iodide Perovskite by 2D Electronic Spectroscopy. <i>ACS Photonics</i> , 2018, 5, 852-860.	6.6	57
29	Calculation of ionization potential of amorphous organic thin-films using solvation model and DFT. <i>Organic Electronics</i> , 2009, 10, 532-535.	2.6	52
30	Synthesis of 5-alkoxymethyl- and 5-aminomethyl-substituted 8-hydroxyquinoline derivatives and their luminescent Al(III) complexes for OLED applications. <i>Tetrahedron Letters</i> , 2004, 45, 6265-6268.	1.4	47
31	Intermolecular vibrations mediate ultrafast singlet fission. <i>Science Advances</i> , 2020, 6, .	10.3	42
32	Giant Fine Structure Splitting of the Bright Exciton in a Bulk MAPbBr ₃ Single Crystal. <i>Nano Letters</i> , 2019, 19, 7054-7061.	9.1	41
33	Vacancy-Ordered Double Perovskite Cs ₂ Tel ₆ Thin Films for Optoelectronics. <i>Chemistry of Materials</i> , 2020, 32, 6676-6684.	6.7	41
34	O ₂ and organic semiconductors: Electronic effects. <i>Organic Electronics</i> , 2013, 14, 966-972.	2.6	40
35	Adduct-based p-doping of organic semiconductors. <i>Nature Materials</i> , 2021, 20, 1248-1254.	27.5	40
36	Photoinduced Vibrations Drive Ultrafast Structural Distortion in Lead Halide Perovskite. <i>Journal of the American Chemical Society</i> , 2020, 142, 16569-16578.	13.7	30

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37	Blue and white light electroluminescence in a multilayer OLED using a new aluminium complex. <i>Journal of Chemical Sciences</i> , 2010, 122, 847-855.	1.5	28
38	Diverging Expressions of Anharmonicity in Halide Perovskites. <i>Advanced Materials</i> , 2022, 34, e2107932.	21.0	28
39	Organic-inorganic hybrid and inorganic halide perovskites: structural and chemical engineering, interfaces and optoelectronic properties. <i>Journal Physics D: Applied Physics</i> , 2021, 54, 133002.	2.8	27
40	Synthesis, characterization, photophysical and electrochemical properties of new phosphorescent dopants for OLEDs. <i>Tetrahedron Letters</i> , 2008, 49, 2710-2713.	1.4	23
41	The effect of ionic composition on acoustic phonon speeds in hybrid perovskites from Brillouin spectroscopy and density functional theory. <i>Journal of Materials Chemistry C</i> , 2018, 6, 3861-3868.	5.5	23
42	Pure exciplex electroluminescence in blended film of small organic molecules. <i>Synthetic Metals</i> , 2010, 160, 722-727.	3.9	20
43	Synthesis, photophysical and electrochemical properties of 2,8-diaryl-dibenzothiophene derivatives for organic electronics. <i>Journal of Chemical Sciences</i> , 2010, 122, 119-124.	1.5	17
44	Synthesis, photoluminescence and electrochemical properties of 2,7-diarylfluorene derivatives. <i>Journal of Chemical Sciences</i> , 2008, 120, 355-362.	1.5	15
45	Insights Into the Microscopic and Degradation Processes in Hybrid Perovskite Solar Cells Using Noise Spectroscopy. <i>Solar Rrl</i> , 2018, 2, 1700173.	5.8	13
46	2D Position-Sensitive Hybrid-Perovskite Detectors. <i>ACS Applied Materials & Interfaces</i> , 2021, 13, 54527-54535.	8.0	11
47	Excited state complex and electroluminescence in TPD-based single layer device. <i>Journal of Luminescence</i> , 2010, 130, 1174-1178.	3.1	9
48	How to Avoid Artifacts in Surface Photovoltage Measurements: A Case Study with Halide Perovskites. <i>Journal of Physical Chemistry Letters</i> , 2017, 8, 2941-2943.	4.6	9
49	A-site cation influence on the conduction band of lead bromide perovskites. <i>Nature Communications</i> , 2022, 13, .	12.8	9
50	The effect of structural order on solar cell parameters, as illustrated in a SiC-organic junction model. <i>Energy and Environmental Science</i> , 2013, 6, 3272.	30.8	8
51	Generic synthesis of a variety of nanocrystalline metal oxides at room temperature. <i>Journal of Materials Chemistry</i> , 2008, 18, 3636.	6.7	7
52	Characterisation of different polymorphs of tris(8-hydroxyquinolino)aluminium(III) using solid-state NMR and DFT calculations. <i>Chemistry Central Journal</i> , 2009, 3, 15.	2.6	7
53	Sensitivity of Nitrogen K-Edge X-ray Absorption to Halide Substitution and Thermal Fluctuations in Methylammonium Lead-Halide Perovskites. <i>Journal of Physical Chemistry C</i> , 2021, 125, 8360-8368.	3.1	7
54	Electronic coupling between the unoccupied states of the organic and inorganic sublattices of methylammonium lead iodide: A hybrid organic-inorganic perovskite single crystal. <i>Physical Review B</i> , 2021, 104, .	3.2	7

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55	Synthesis, photophysical, electrochemical and thermal studies on carbazole-based acceptor molecules for heterojunction solar cell. <i>Thin Solid Films</i> , 2012, 520, 2644-2650.	1.8	6
56	Direct Silicon Heterostructures With Methylammonium Lead Iodide Perovskite for Photovoltaic Applications. <i>IEEE Journal of Photovoltaics</i> , 2020, 10, 945-951.	2.5	5
57	Enhancing the Tunability of the Open-Circuit Voltage of Hybrid Photovoltaics with Mixed Molecular Monolayers. <i>ACS Applied Materials & Interfaces</i> , 2014, 6, 2317-2324.	8.0	4
58	Synthesis, photophysical, electrochemical and electroluminescence studies of red emitting phosphorescent Ir(III) heteroleptic complexes. <i>Journal of Chemical Sciences</i> , 2017, 129, 1391-1398.	1.5	4
59	In Operando, Photovoltaic, and Microscopic Evaluation of Recombination Centers in Halide Perovskite-Based Solar Cells. <i>ACS Applied Materials & Interfaces</i> , 2022, 14, 34171-34179.	8.0	4
60	CHAPTER 17. Real World Efficiency Limits: the Shockley-Queisser Model as a Starting Point. <i>RSC Energy and Environment Series</i> , 0, , 547-566.	0.5	2
61	RESEARCH HIGHLIGHTS: Perovskites. <i>MRS Bulletin</i> , 2021, 46, 465-466.	3.5	1
62	Red shifted electroluminescence in OLEDs using organic alloy of hole transport materials. , 2007, , .		0
63	Research highlights: Perovskites. <i>MRS Bulletin</i> , 2016, 41, 939-940.	3.5	0
64	Research highlights: Perovskites. <i>MRS Bulletin</i> , 2017, 42, 694-695.	3.5	0
65	Research highlights: Perovskites. <i>MRS Bulletin</i> , 2018, 43, 7-8.	3.5	0
66	Research Highlights: Perovskites. <i>MRS Bulletin</i> , 2018, 43, 645-646.	3.5	0
67	Research highlights: Perovskites. <i>MRS Bulletin</i> , 2018, 43, 397-398.	3.5	0
68	Research Highlights: Perovskites. <i>MRS Bulletin</i> , 2019, 44, 673-674.	3.5	0
69	Evidence and implications for exciton dissociation in lead halide perovskites. <i>EPJ Web of Conferences</i> , 2019, 205, 06018.	0.3	0
70	RESEARCH HIGHLIGHTS: Perovskites. <i>MRS Bulletin</i> , 2020, 45, 515-516.	3.5	0
71	Research Highlights: Perovskites. <i>MRS Bulletin</i> , 2020, 45, 790-791.	3.5	0
72	RESEARCH HIGHLIGHTS: Perovskites. <i>MRS Bulletin</i> , 2020, 45, 253-254.	3.5	0

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73	RESEARCH HIGHLIGHTS: Perovskites By Pabitra K. Nayak. MRS Bulletin, 2021, 46, 93-94.	3.5	0
74	Vacuum-deposited Cs ₂ AgBiBr ₆ . Photovoltaic devices and fundamental characterization.. , 0, , .		0