Pabitra K Nayak

List of Publications by Year
in descending order

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	In Operando, Photovoltaic, and Microscopic Evaluation of Recombination Centers in Halide Perovskite-Based Solar Cells. ACS Applied Materials & Interfaces, 2022, 14, 34171-34179.	8.0	4
2	Diverging Expressions of Anharmonicity in Halide Perovskites. Advanced Materials, 2022, 34, e2107932.	21.0	28
3	A-site cation influence on the conduction band of lead bromide perovskites. Nature Communications, 2022, 13, .	12.8	9
4	Organicâ€“inorganic hybrid and inorganic halide perovskites: structural and chemical engineering, interfaces and optoelectronic properties. Journal Physics D: Applied Physics, 2021, 54, 133002.	2.8	27
5	RESEARCH HIGHLIGHTS: Perovskites By Pabitra K. Nayak. MRS Bulletin, 2021, 46, 93-94.	3.5	0
6	Adduct-based p-doping of organic semiconductors. Nature Materials, 2021, 20, 1248-1254.	27.5	40
7	Sensitivity of Nitrogen K-Edge X-ray Absorption to Halide Substitution and Thermal Fluctuations in Methylammonium Lead-Halide Perovskites. Journal of Physical Chemistry C, 2021, 125, 8360-8368.	3.1	7
8	RESEARCH HIGHLIGHTS: Perovskites. MRS Bulletin, 2021, 46, 465-466.	3.5	1
9	Electronic coupling between the unoccupied states of the organic and inorganic sublattices of methylammonium lead iodide: A hybrid organic-inorganic perovskite single crystal. Physical Review B, 2021, 104, .	3.2	7
10	2D Position-Sensitive Hybrid-Perovskite Detectors. ACS Applied Materials & Interfaces, 2021, 13, 54527-54535.	8.0	11
11	Revealing the origin of voltage loss in mixed-halide perovskite solar cells. Energy and Environmental Science, 2020, 13, 258-267.	30.8	283
12	Intermolecular vibrations mediate ultrafast singlet fission. Science Advances, 2020, 6, .	10.3	42
13	RESEARCH HIGHLIGHTS: Perovskites. MRS Bulletin, 2020, 45, 515-516.	3.5	0
14	Photoinduced Vibrations Drive Ultrafast Structural Distortion in Lead Halide Perovskite. Journal of the American Chemical Society, 2020, 142, 16569-16578.	13.7	30
15	Research Highlights: Perovskites. MRS Bulletin, 2020, 45, 790-791.	3.5	0
16	RESEARCH HIGHLIGHTS: Perovskites. MRS Bulletin, 2020, 45, 253-254.	3.5	0
17	Understanding the Performance-Limiting Factors of Cs₂AgBiBr₆ Double-Perovskite Solar Cells. ACS Energy Letters, 2020, 5, 2200-2207.	17.4	161
18	A piperidinium salt stabilizes efficient metal-halide perovskite solar cells. Science, 2020, 369, 96-102.	12.6	461

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19	Vacancy-Ordered Double Perovskite Cs₂TeI₆ Thin Films for Optoelectronics. Chemistry of Materials, 2020, 32, 6676-6684.	6.7	41
20	Isotype Heterojunction Solar Cells Using n-Type Sb₂Se₃ Thin Films. Chemistry of Materials, 2020, 32, 2621-2630.	6.7	83
21	Direct Silicon Heterostructures With Methylammonium Lead Iodide Perovskite for Photovoltaic Applications. IEEE Journal of Photovoltaics, 2020, 10, 945-951.	2.5	5
22	Overcoming Zinc Oxide Interface Instability with a Methylammoniumâ€Free Perovskite for Highâ€Performance Solar Cells. Advanced Functional Materials, 2019, 29, 1900466.	14.9	129
23	Research Highlights: Perovskites. MRS Bulletin, 2019, 44, 673-674.	3.5	0
24	Giant Fine Structure Splitting of the Bright Exciton in a Bulk MAPbBr₃ Single Crystal. Nano Letters, 2019, 19, 7054-7061.	9.1	41
25	Evidence and implications for exciton dissociation in lead halide perovskites. EPJ Web of Conferences, 2019, 205, 06018.	0.3	0
26	Photovoltaic solar cell technologies: analysing the state of the art. Nature Reviews Materials, 2019, 4, 269-285.	48.7	727
27	Structural and Optical Properties of Cs₂AgBiBr₆ Double Perovskite. ACS Energy Letters, 2019, 4, 299-305.	17.4	146
28	Research highlights: Perovskites. MRS Bulletin, 2018, 43, 7-8.	3.5	0
29	Impact of Bi³⁺ Heterovalent Doping in Organicâ€“Inorganic Metal Halide Perovskite Crystals. Journal of the American Chemical Society, 2018, 140, 574-577.	13.7	181
30	Direct Observation of Ultrafast Exciton Dissociation in Lead Iodide Perovskite by 2D Electronic Spectroscopy. ACS Photonics, 2018, 5, 852-860.	6.6	57
31	The effect of ionic composition on acoustic phonon speeds in hybrid perovskites from Brillouin spectroscopy and density functional theory. Journal of Materials Chemistry C, 2018, 6, 3861-3868.	5.5	23
32	Insights Into the Microscopic and Degradation Processes in Hybrid Perovskite Solar Cells Using Noise Spectroscopy. Solar Rrl, 2018, 2, 1700173.	5.8	13
33	Research Highlights: Perovskites. MRS Bulletin, 2018, 43, 645-646.	3.5	0
34	Research highlights: Perovskites. MRS Bulletin, 2018, 43, 397-398.	3.5	0
35	Solution-Processed Cesium Hexabromopalladate(IV), Cs₂PdBr₆, for Optoelectronic Applications. Journal of the American Chemical Society, 2017, 139, 6030-6033.	13.7	189
36	Research highlights: Perovskites. MRS Bulletin, 2017, 42, 694-695.	3.5	0

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37	Consolidation of the optoelectronic properties of CH3NH3PbBr3 perovskite single crystals. Nature Communications, 2017, 8, 590.	12.8	207
38	Synthesis, photophysical, electrochemical and electroluminescence studies of red emitting phosphorescent Ir(III) heteroleptic complexes. Journal of Chemical Sciences, 2017, 129, 1391-1398.	1.5	4
39	How to Avoid Artifacts in Surface Photovoltage Measurements: A Case Study with Halide Perovskites. Journal of Physical Chemistry Letters, 2017, 8, 2941-2943.	4.6	9
40	Shuntâ€Blocking Layers for Semitransparent Perovskite Solar Cells. Advanced Materials Interfaces, 2016, 3, 1500837.	3.7	73
41	Optical phonons in methylammonium lead halide perovskites and implications for charge transport. Materials Horizons, 2016, 3, 613-620.	12.2	299
42	Interface-Dependent Ion Migration/Accumulation Controls Hysteresis in MAPbI₃ Solar Cells. Journal of Physical Chemistry C, 2016, 120, 16399-16411.	3.1	118
43	Efficient perovskite solar cells by metal ion doping. Energy and Environmental Science, 2016, 9, 2892-2901.	30.8	372
44	Mechanism for rapid growth of organicâ€“inorganic halide perovskite crystals. Nature Communications, 2016, 7, 13303.	12.8	191
45	Research highlights: Perovskites. MRS Bulletin, 2016, 41, 939-940.	3.5	0
46	Structured Organicâ€“Inorganic Perovskite toward a Distributed Feedback Laser. Advanced Materials, 2016, 28, 923-929.	21.0	257
47	Formation of Thin Films of Organicâ€“Inorganic Perovskites for Highâ€Efficiency Solar Cells. Angewandte Chemie - International Edition, 2015, 54, 3240-3248.	13.8	245
48	Mode-selective vibrational modulation of charge transport in organic electronic devices. Nature Communications, 2015, 6, 7880.	12.8	72
49	Enhanced optoelectronic quality of perovskite thin films with hypophosphorous acid for planar heterojunction solar cells. Nature Communications, 2015, 6, 10030.	12.8	620
50	Updated Assessment of Possibilities and Limits for Solar Cells. Advanced Materials, 2014, 26, 1622-1628.	21.0	101
51	Enhancing the Tunability of the Open-Circuit Voltage of Hybrid Photovoltaics with Mixed Molecular Monolayers. ACS Applied Materials & Interfaces, 2014, 6, 2317-2324.	8.0	4
52	Exciton binding energy in small organic conjugated molecule. Synthetic Metals, 2013, 174, 42-45.	3.9	62
53	O2 and organic semiconductors: Electronic effects. Organic Electronics, 2013, 14, 966-972.	2.6	40
54	The effect of structural order on solar cell parameters, as illustrated in a SiC-organic junction model. Energy and Environmental Science, 2013, 6, 3272.	30.8	8

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55	Separating Charges at Organic Interfaces: Effects of Disorder, Hot States, and Electric Field. Journal of Physical Chemistry Letters, 2013, 4, 1707-1717.	4.6	63
56	Photovoltaic efficiency limits and material disorder. Energy and Environmental Science, 2012, 5, 6022.	30.8	166
57	Synthesis, photophysical, electrochemical and thermal studies on carbazole-based acceptor molecules for heterojunction solar cell. Thin Solid Films, 2012, 520, 2644-2650.	1.8	6
58	Tuning of HOMO levels of carbazole derivatives: New molecules for blue OLED. Synthetic Metals, 2011, 161, 466-473.	3.9	62
59	Assessing Possibilities and Limits for Solar Cells. Advanced Materials, 2011, 23, 2870-2876.	21.0	122
60	Synthesis, photophysical and electrochemical properties of 2,8-diaryl-dibenzothiophene derivatives for organic electronics. Journal of Chemical Sciences, 2010, 122, 119-124.	1.5	17
61	Blue and white light electroluminescence in a multilayer OLED using a new aluminium complex. Journal of Chemical Sciences, 2010, 122, 847-855.	1.5	28
62	Excited state complex and electroluminescence in TPD-based single layer device. Journal of Luminescence, 2010, 130, 1174-1178.	3.1	9
63	Pure exciplex electroluminescence in blended film of small organic molecules. Synthetic Metals, 2010, 160, 722-727.	3.9	20
64	Characterisation of different polymorphs of tris(8-hydroxyquinolinato)aluminium(III) using solid-state NMR and DFT calculations. Chemistry Central Journal, 2009, 3, 15.	2.6	7
65	Calculation of ionization potential of amorphous organic thin-films using solvation model and DFT. Organic Electronics, 2009, 10, 532-535.	2.6	52
66	Calculation of electron affinity, ionization potential, transport gap, optical band gap and exciton binding energy of organic solids using â€˜solvationâ€™ model and DFT. Organic Electronics, 2009, 10, 1396-1400.	2.6	135
67	Synthesis, photoluminescence and electrochemical properties of 2,7-diarylfluorene derivatives. Journal of Chemical Sciences, 2008, 120, 355-362.	1.5	15
68	Synthesis, characterization, photophysical and electrochemical properties of new phosphorescent dopants for OLEDs. Tetrahedron Letters, 2008, 49, 2710-2713.	1.4	23
69	Generic synthesis of a variety of nanocrystalline metal oxides at room temperature. Journal of Materials Chemistry, 2008, 18, 3636.	6.7	7
70	Red shifted electroluminescence in OLEDs using organic alloy of hole transport materials. , 2007, , .		0
71	Characterization of the Formation of Amyloid Protofibrils from Barstar by Mapping Residue-specific Fluorescence Dynamics. Journal of Molecular Biology, 2006, 358, 935-942.	4.2	63
72	Synthesis of 5-alkoxymethyl- and 5-aminomethyl-substituted 8-hydroxyquinoline derivatives and their luminescent Al(III) complexes for OLED applications. Tetrahedron Letters, 2004, 45, 6265-6268.	1.4	47

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73	CHAPTER 17. Real World Efficiency Limits: the Shockleyâ€"Queisser Model as a Starting Point. RSC Energy and Environment Series, 0, , 547-566.	0.5	2
74	Vacuum-deposited $Cs_2AgBiBr_6$. Photovoltaic devices and fundamental characterization.. , 0, , .		0