Pabitra K Nayak

List of Publications by Year
in descending order

Source: https://exaly.com/author-pdf/6149918/publications.pdf

Version: 2024-02-01

74 papers	6,301 citations	109264 35 h-index	118793 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. Nature Reviews Materials, 2019, 4, 269-285.	23.3	727
2	Enhanced optoelectronic quality of perovskite thin films with hypophosphorous acid for planar heterojunction solar cells. Nature Communications, 2015, 6, 10030.	5.8	620
3	A piperidinium salt stabilizes efficient metal-halide perovskite solar cells. Science, 2020, 369, 96-102.	6.0	461
4	Efficient perovskite solar cells by metal ion doping. Energy and Environmental Science, 2016, 9, 2892-2901.	15.6	372
5	Optical phonons in methylammonium lead halide perovskites and implications for charge transport. Materials Horizons, 2016, 3, 613-620.	6.4	299
6	Revealing the origin of voltage loss in mixed-halide perovskite solar cells. Energy and Environmental Science, 2020, 13, 258-267.	15.6	283
7	Structured Organicâ€“Inorganic Perovskite toward a Distributed Feedback Laser. Advanced Materials, 2016, 28, 923-929.	11.1	257
8	Formation of Thin Films of Organicâ€“Inorganic Perovskites for Highâ€Efficiency Solar Cells. Angewandte Chemie - International Edition, 2015, 54, 3240-3248.	7.2	245
9	Consolidation of the optoelectronic properties of CH3NH3PbBr3 perovskite single crystals. Nature Communications, 2017, 8, 590.	5.8	207
10	Mechanism for rapid growth of organicâ€“inorganic halide perovskite crystals. Nature Communications, 2016, 7, 13303.	5.8	191
11	Solution-Processed Cesium Hexabromopalladate(IV), Cs₂PdBr₆, for Optoelectronic Applications. Journal of the American Chemical Society, 2017, 139, 6030-6033.	6.6	189
12	Impact of Bi³⁺ Heterovalent Doping in Organicâ€“Inorganic Metal Halide Perovskite Crystals. Journal of the American Chemical Society, 2018, 140, 574-577.	6.6	181
13	Photovoltaic efficiency limits and material disorder. Energy and Environmental Science, 2012, 5, 6022.	15.6	166
14	Understanding the Performance-Limiting Factors of Cs₂AgBiBr₆ Double-Perovskite Solar Cells. ACS Energy Letters, 2020, 5, 2200-2207.	8.8	161
15	Structural and Optical Properties of Cs₂AgBiBr₆ Double Perovskite. ACS Energy Letters, 2019, 4, 299-305.	8.8	146
16	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.	1.4	135
17	Overcoming Zinc Oxide Interface Instability with a Methylammoniumâ€Free Perovskite for Highâ€Performance Solar Cells. Advanced Functional Materials, 2019, 29, 1900466.	7.8	129
18	Assessing Possibilities and Limits for Solar Cells. Advanced Materials, 2011, 23, 2870-2876.	11.1	122

#	Article	IF	Citations
19	Interface-Dependent Ion Migration/Accumulation Controls Hysteresis in MAPbI₃ Solar Cells. Journal of Physical Chemistry C, 2016, 120, 16399-16411.	1.5	118
20	Updated Assessment of Possibilities and Limits for Solar Cells. Advanced Materials, 2014, 26, 1622-1628.	11.1	101
21	Isotype Heterojunction Solar Cells Using n-Type Sb₂Se₃ Thin Films. Chemistry of Materials, 2020, 32, 2621-2630.	3.2	83
22	Shuntâ€Blocking Layers for Semitransparent Perovskite Solar Cells. Advanced Materials Interfaces, 2016, 3, 1500837.	1.9	73
23	Mode-selective vibrational modulation of charge transport in organic electronic devices. Nature Communications, 2015, 6, 7880.	5.8	72
24	Characterization of the Formation of Amyloid Protofibrils from Barstar by Mapping Residue-specific Fluorescence Dynamics. Journal of Molecular Biology, 2006, 358, 935-942.	2.0	63
25	Separating Charges at Organic Interfaces: Effects of Disorder, Hot States, and Electric Field. Journal of Physical Chemistry Letters, 2013, 4, 1707-1717.	2.1	63
26	Tuning of HOMO levels of carbazole derivatives: New molecules for blue OLED. Synthetic Metals, 2011, 161, 466-473.	2.1	62
27	Exciton binding energy in small organic conjugated molecule. Synthetic Metals, 2013, 174, 42-45.	2.1	62
28	Direct Observation of Ultrafast Exciton Dissociation in Lead Iodide Perovskite by 2D Electronic Spectroscopy. ACS Photonics, 2018, 5, 852-860.	3.2	57
29	Calculation of ionization potential of amorphous organic thin-films using solvation model and DFT. Organic Electronics, 2009, 10, 532-535.	1.4	52
30	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.	0.7	47
31	Intermolecular vibrations mediate ultrafast singlet fission. Science Advances, 2020, 6, .	4.7	42
32	Giant Fine Structure Splitting of the Bright Exciton in a Bulk MAPbBr₃ Single Crystal. Nano Letters, 2019, 19, 7054-7061.	4.5	41
33	Vacancy-Ordered Double Perovskite Cs₂TeI₆ Thin Films for Optoelectronics. Chemistry of Materials, 2020, 32, 6676-6684.	3.2	41
34	O2 and organic semiconductors: Electronic effects. Organic Electronics, 2013, 14, 966-972.	1.4	40
35	Adduct-based p-doping of organic semiconductors. Nature Materials, 2021, 20, 1248-1254.	13.3	40
36	Photoinduced Vibrations Drive Ultrafast Structural Distortion in Lead Halide Perovskite. Journal of the American Chemical Society, 2020, 142, 16569-16578.	6.6	30

#	Article	IF	Citations
37	Blue and white light electroluminescence in a multilayer OLED using a new aluminium complex. Journal of Chemical Sciences, 2010, 122, 847-855.	0.7	28
38	Diverging Expressions of Anharmonicity in Halide Perovskites. Advanced Materials, 2022, 34, e2107932.	11.1	28
39	Organicâ€“inorganic hybrid and inorganic halide perovskites: structural and chemical engineering, interfaces and optoelectronic properties. Journal Physics D: Applied Physics, 2021, 54, 133002.	1.3	27
40	Synthesis, characterization, photophysical and electrochemical properties of new phosphorescent dopants for OLEDs. Tetrahedron Letters, 2008, 49, 2710-2713.	0.7	23
41	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.	2.7	23
42	Pure exciplex electroluminescence in blended film of small organic molecules. Synthetic Metals, 2010, 160, 722-727.	2.1	20
43	Synthesis, photophysical and electrochemical properties of 2,8-diaryl-dibenzothiophene derivatives for organic electronics. Journal of Chemical Sciences, 2010, 122, 119-124.	0.7	17
44	Synthesis, photoluminescence and electrochemical properties of 2,7-diarylfluorene derivatives. Journal of Chemical Sciences, 2008, 120, 355-362.	0.7	15
45	Insights Into the Microscopic and Degradation Processes in Hybrid Perovskite Solar Cells Using Noise Spectroscopy. Solar Rrl, 2018, 2, 1700173.	3.1	13
46	2D Position-Sensitive Hybrid-Perovskite Detectors. ACS Applied Materials & Interfaces, 2021, 13, 54527-54535.	4.0	11
47	Excited state complex and electroluminescence in TPD-based single layer device. Journal of Luminescence, 2010, 130, 1174-1178.	1.5	9
48	How to Avoid Artifacts in Surface Photovoltage Measurements: A Case Study with Halide Perovskites. Journal of Physical Chemistry Letters, 2017, 8, 2941-2943.	2.1	9
49	A-site cation influence on the conduction band of lead bromide perovskites. Nature Communications, 2022, 13, .	5.8	9
50	The effect of structural order on solar cell parameters, as illustrated in a SiC-organic junction model. Energy and Environmental Science, 2013, 6, 3272.	15.6	8
51	Generic synthesis of a variety of nanocrystalline metal oxides at room temperature. Journal of Materials Chemistry, 2008, 18, 3636.	6.7	7
52	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
53	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.	1.5	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. Physical Review B, 2021, 104, .	1.1	7

#	Article	IF	Citations
55	Synthesis, photophysical, electrochemical and thermal studies on carbazole-based acceptor molecules for heterojunction solar cell. Thin Solid Films, 2012, 520, 2644-2650.	0.8	6
56	Direct Silicon Heterostructures With Methylammonium Lead Iodide Perovskite for Photovoltaic Applications. IEEE Journal of Photovoltaics, 2020, 10, 945-951.	1.5	5
57	Enhancing the Tunability of the Open-Circuit Voltage of Hybrid Photovoltaics with Mixed Molecular Monolayers. ACS Applied Materials & Interfaces, 2014, 6, 2317-2324.	4.0	4
58	Synthesis, photophysical, electrochemical and electroluminescence studies of red emitting phosphorescent Ir(III) heteroleptic complexes. Journal of Chemical Sciences, 2017, 129, 1391-1398.	0.7	4
59	In Operando, Photovoltaic, and Microscopic Evaluation of Recombination Centers in Halide Perovskite-Based Solar Cells. ACS Applied Materials & Interfaces, 2022, 14, 34171-34179.	4.0	4
60	CHAPTER 17. Real World Efficiency Limits: the Shockleyâ€“Queisser Model as a Starting Point. RSC Energy and Environment Series, 0, , 547-566.	0.2	2
61	RESEARCH HIGHLIGHTS: Perovskites. MRS Bulletin, 2021, 46, 465-466.	1.7	1
62	Red shifted electroluminescence in OLEDs using organic alloy of hole transport materials. , 2007, , .		0
63	Research highlights: Perovskites. MRS Bulletin, 2016, 41, 939-940.	1.7	0
64	Research highlights: Perovskites. MRS Bulletin, 2017, 42, 694-695.	1.7	0
65	Research highlights: Perovskites. MRS Bulletin, 2018, 43, 7-8.	1.7	0
66	Research Highlights: Perovskites. MRS Bulletin, 2018, 43, 645-646.	1.7	0
67	Research highlights: Perovskites. MRS Bulletin, 2018, 43, 397-398.	1.7	0
68	Research Highlights: Perovskites. MRS Bulletin, 2019, 44, 673-674.	1.7	0
69	Evidence and implications for exciton dissociation in lead halide perovskites. EPJ Web of Conferences, 2019, 205, 06018.	0.1	0
70	RESEARCH HIGHLIGHTS: Perovskites. MRS Bulletin, 2020, 45, 515-516.	1.7	0
71	Research Highlights: Perovskites. MRS Bulletin, 2020, 45, 790-791.	1.7	0
72	RESEARCH HIGHLIGHTS: Perovskites. MRS Bulletin, 2020, 45, 253-254.	1.7	0

#	Article	IF	Citations
73	RESEARCH HIGHLIGHTS: Perovskites By Pabitra K. Nayak. MRS Bulletin, 2021, 46, 93-94.	1.7	0
74	Vacuum-deposited Cs2AgBiBr6. Photovoltaic devices and fundamental characterization.. , 0, , .		0