Palani Balaya

List of Publications by Year
in descending order

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97 papers	8,428 citations	66343 42 h-index	43889 91 g-index
98 all docs	98 docs citations	98 times ranked	9551 citing authors

#	Article	IF	Citations
1	A mini review on cathode materials for sodiumâ€ion batteries. International Journal of Applied Ceramic Technology, 2022, 19, 913-923.	2.1	26
2	A study on heat generation characteristics of Na3V2(PO4)3 cathode and hard carbon anode-based sodium-ion cells. Journal of Thermal Analysis and Calorimetry, 2022, 147, 8631-8649.	3.6	2
3	A fire-retarding electrolyte using triethyl phosphate as a solvent for sodium-ion batteries. Chemical Communications, 2022, 58, 533-536.	4.1	10
4	Investigations of Thermal Stability and Solid Electrolyte Interphase on Na₂Ti₃O₇/C as a Non-carbonaceous Anode Material for Sodium Storage Using Non-flammable Ether-based Electrolyte. ACS Applied Materials & Interfaces, 2021, 13, 11732-11740.	8.0	15
5	Key design considerations for synthesis of mesoporous Î±-Li3V2(PO4)3/C for high power lithium batteries. Electrochimica Acta, 2021, 372, 137831.	5.2	14
6	Fundamentals, status and promise of sodium-based batteries. Nature Reviews Materials, 2021, 6, 1020-1035.	48.7	496
7	Impact of Synthesis Conditions in Na-Rich Prussian Blue Analogues. ACS Applied Materials & Interfaces, 2021, 13, 42682-42692.	8.0	21
8	(Invited) Oxide- and Polyanion- based Cathode Materials for Li-ion and Na-ion Batteries. ECS Meeting Abstracts, 2021, MA2021-02, 201-201.	0.0	0
9	Introducing Na-sufficient P3-Na_{0.9}Fe_{0.5}Mn_{0.5}O₂ as a cathode material for Na-ion batteries. Chemical Communications, 2020, 56, 10686-10689.	4.1	22
10	Analysis of Heat Generation and Impedance Characteristics of Prussian Blue Analogue Cathode-based 18650-type Sodium-ion Cells. Journal of the Electrochemical Society, 2020, 167, 110504.	2.9	18
11	A comprehensive study on the electrolyte, anode and cathode for developing commercial type non-flammable sodium-ion battery. Energy Storage Materials, 2020, 29, 287-299.	18.0	33
12	Experimental and Theoretical Studies of Trisodiumâ€1,3,5â€Benzene Tricarboxylate as a Lowâ€Voltage Anode Material for Sodiumâ€ion Batteries. Energy Technology, 2019, 7, 1801030.	3.8	13
13	Developing an O3 type layered oxide cathode and its application in 18650 commercial type Na-ion batteries. Journal of Materials Chemistry A, 2019, 7, 25944-25960.	10.3	39
14	Communicationâ€"Mg(TFSI)2-Based Hybrid Magnesium-Sodium Electrolyte: Case Study with NaTi2(PO4)3//Mg Cell. Journal of the Electrochemical Society, 2018, 165, A1092-A1094.	2.9	6
15	High energy density in-situ sodium plated battery with current collector foil as anode. Electrochemistry Communications, 2018, 86, 157-160.	4.7	27
16	NASICON-type La3+substituted LiZr2(PO4)3 with improved ionic conductivity as solid electrolyte. Electrochimica Acta, 2018, 271, 120-126.	5.2	43
17	Charge and Discharge Processes and Sodium Storage in Disodium Pyridineâ€2,5â€Dicarboxylate Anodeâ€"Insights from Experiments and Theory. Advanced Energy Materials, 2018, 8, 1701572.	19.5	40
18	NaVPO4F with high cycling stability as a promising cathode for sodium-ion battery. Energy Storage Materials, 2018, 10, 102-113.	18.0	88

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19	Enhanced electrochemical performance of W incorporated VO2 nanocomposite cathode material for lithium battery application. Electrochimica Acta, 2018, 282, 480-489.	5.2	15
20	Tuning the Capacitance Properties of Nanocrystalline MnCO₃by the Effect of a Carbonizing Agent. Journal of the Electrochemical Society, 2018, 165, A1865-A1873.	2.9	16
21	Investigations of Thermal Stability and SEI on Different Anodes for Sodium-Ion Battery Using Non-Flammable Ether-Based Electrolyte. ECS Meeting Abstracts, 2018, , .	0.0	1
22	Monoclinic Sodium Iron Hexacyanoferrate Cathode and Non-Flammable Glyme-Based Electrolyte for Inexpensive Sodium-Ion Batteries. Journal of the Electrochemical Society, 2017, 164, A1098-A1109.	2.9	82
23	Na 2 MnSiO 4 as an attractive high capacity cathode material for sodium-ion battery. Journal of Power Sources, 2017, 359, 277-284.	7.8	60
24	Towards Understanding Heat Generation Characteristics of Li-Ion Batteries by Calorimetry, Impedance, and Potentiometry Studies. Journal of the Electrochemical Society, 2017, 164, A2794-A2800.	2.9	39
25	Investigation of physico-chemical processes in lithium-ion batteries by deconvolution of electrochemical impedance spectra. Journal of Power Sources, 2017, 361, 300-309.	7.8	50
26	Special proceedings of the Symposium A: â€œAdvances in energy storage systems: lithium batteries, supercapacitors and beyondâ€, during ICMAT 2015, June 28â€“July 3, Singapore. Journal of Solid State Electrochemistry, 2016, 20, 1819-1820.	2.5	1
27	Antisite defects and valence state of vanadium in Na3V2(PO4)3. Physics of the Solid State, 2016, 58, 475-480.	0.6	9
28	Electronic Coupling of Cobalt Nanoparticles to Nitrogenâ€Doped Graphene for Oxygen Reduction and Evolution Reactions. ChemSusChem, 2016, 9, 3067-3073.	6.8	21
29	Improved ionic conductivity in NASICON-type Sr2+ doped LiZr2(PO4)3. Solid State Ionics, 2016, 296, 1-6.	2.7	55
30	Heat loss distribution: Impedance and thermal loss analyses in LiFePO4/graphite 18650 electrochemical cell. Journal of Power Sources, 2016, 328, 413-421.	7.8	60
31	The effect of polymorphism on the lithium storage performance of Li2MnSiO4. Journal of Power Sources, 2016, 306, 552-558.	7.8	24
32	Metal carbonates: alternative to metal oxides for supercapacitor applications? A case study of MnCO3 vs MnO2. Journal of Solid State Electrochemistry, 2016, 20, 1877-1883.	2.5	19
33	Infrared spectroscopy of Li2MnSiO4: A cathode material for Li ion batteries. AIP Conference Proceedings, 2015, , .	0.4	3
34	Synthesis, characterisation and enhanced electrochemical performance of nanostructured Na₂FePO₄F for sodium batteries. RSC Advances, 2015, 5, 50155-50164.	3.6	54
35	Introducing a 0.2 V sodium-ion battery anode: The Na2Ti3O7 to Na3â^'xTi3O7 pathway. Electrochemistry Communications, 2015, 61, 10-13.	4.7	61
36	Synthesis, optical, electrochemical and photovoltaic properties of organic dyes containing trifluorenylamine donors. Dyes and Pigments, 2015, 113, 78-86.	3.7	20

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37	MnCO3: a novel electrode material for supercapacitors. Journal of Materials Chemistry A, 2014, 2, 4276.	10.3	86
38	A new phenomenon in sodium batteries: Voltage step due to solvent interaction. Electrochemistry Communications, 2014, 46, 56-59.	4.7	84
39	Palladium nanoparticles anchored on graphene nanosheets: Methanol, ethanol oxidation reactions and their kinetic studies. Materials Research Bulletin, 2014, 60, 150-157.	5.2	19
40	Low Temperature Aqueous Electrodeposited TiO_x Thin Films as Electron Extraction Layer for Efficient Inverted Organic Solar Cells. ACS Applied Materials & Interfaces, 2014, 6, 2679-2685.	8.0	11
41	Na2Ti6O13: a potential anode for grid-storage sodium-ion batteries. Chemical Communications, 2013, 49, 7451.	4.1	194
42	Solâ€“gel derived nanostructured Li2MnSiO4/C cathode with high storage capacity. Electrochimica Acta, 2013, 102, 290-298.	5.2	49
43	Enhancing the electrochemical kinetics of high voltage olivine LiMnPO4 by isovalent co-doping. Physical Chemistry Chemical Physics, 2013, 15, 17240.	2.8	88
44	The effect of synthesis parameters on the lithium storage performance of LiMnPO4/C. Electrochimica Acta, 2013, 105, 496-505.	5.2	40
45	A rationally designed dual role anode material for lithium-ion and sodium-ion batteries: case study of eco-friendly Fe3O4. Physical Chemistry Chemical Physics, 2013, 15, 2945.	2.8	154
46	The First Report on Excellent Cycling Stability and Superior Rate Capability of Na₃V₂(PO₄)₃ for Sodium Ion Batteries. Advanced Energy Materials, 2013, 3, 444-450.	19.5	672
47	Interconnected nanofibrous titanium dioxide bronze: an emerging lithium ion anode material for high rate performance. RSC Advances, 2013, 3, 2935.	3.6	20
48	Developing a light weight lithium ion battery â€“ an effective material and electrode design for high performance conversion anodes. RSC Advances, 2013, 3, 6386.	3.6	20
49	Na2Ti3O7: an intercalation based anode for sodium-ion battery applications. Journal of Materials Chemistry A, 2013, 1, 2653.	10.3	385
50	Î±-MoO3: A high performance anode material for sodium-ion batteries. Electrochemistry Communications, 2013, 31, 5-9.	4.7	162
51	Mesoporous MnO2 and Its Capacitive Behavior. Electrochemical and Solid-State Letters, 2012, 15, A57.	2.2	44
52	Origin of Hole Selectivity and the Role of Defects in Low-Temperature Solution-Processed Molybdenum Oxide Interfacial Layer for Organic Solar Cells. Journal of Physical Chemistry C, 2012, 116, 16346-16351.	3.1	76
53	Multi-functional photoanode films using mesoporous TiO2 aggregate structure for efficient dye sensitized solar cells. Journal of Materials Chemistry, 2012, 22, 10873.	6.7	43
54	Enhanced photocurrent and stability of organic solar cells using solution-based NiO interfacial layer. Solar Energy, 2012, 86, 3190-3195.	6.1	36

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55	Li2MnSiO4 obtained by microwave assisted solvothermal method: electrochemical and surface studies. Journal of Materials Chemistry, 2012, 22, 21279.	6.7	45
56	Hollow Î±-LiVOPO4 sphere cathodes for high energy Li-ion battery application. Journal of Materials Chemistry, 2011, 21, 10042.	6.7	53
57	Li(MnxFe1â^'x)PO4/C (x = 0.5, 0.75 and 1) nanoplates for lithium storage application. Journal of Materials Chemistry, 2011, 21, 14925.	6.7	95
58	Solid state dye-sensitized solar cell with TiO2/NiO heterojunction: Effect of particle size and layer thickness on photovoltaic performance. Materials Chemistry and Physics, 2011, 125, 553-557.	4.0	21
59	Mesoporous TiO2 with high packing density for superior lithium storage. Energy and Environmental Science, 2010, 3, 939.	30.8	267
60	Lithium storage in a metal organic framework with diamondoid topology â€“ a case study on metal formates. Journal of Materials Chemistry, 2010, 20, 8329.	6.7	204
61	Morphology controlled synthesis of LiFePO4/C nanoplates for Li-ion batteries. Energy and Environmental Science, 2010, 3, 457.	30.8	243
62	Storage performance of LiFe1â€‰â^'â€‰x Mn x PO4 nanoplates (xâ€‰=â€‰0, 0.5, and 1). Journal of Solid State Electrochemistry, 2010, 14, 1755-1760.	2.5	53
63	Special issue to â€œICMAT 2009, Symposium F: nanostructured materials for electrochemical energy systems: lithium batteries, supercapacitors and fuel cells, June 28-July 3, 2009, Singaporeâ€• Journal of Solid State Electrochemistry, 2010, 14, 1741-1742.	2.5	0
64	Lithium Storage Using Conversion Reaction in Maghemite and Hematite. Electrochemical and Solid-State Letters, 2010, 13, A132.	2.2	33
65	Nanostructured electrode materials for Li-ion battery. Proceedings of SPIE, 2010, , .	0.8	0
66	Synthesis of mesoporous titanium dioxide by soft template based approach: characterization and application in dye-sensitized solar cells. Energy and Environmental Science, 2010, 3, 838.	30.8	98
67	Thermodynamics of nano- and macrocrystalline anatase using cell voltage measurements. Physical Chemistry Chemical Physics, 2010, 12, 215-219.	2.8	15
68	Storage performance of LiFePO₄nanoplates. Journal of Materials Chemistry, 2009, 19, 605-610.	6.7	255
69	Hollow Nanospheres and Flowers of CuS from Self-Assembled Cu(II) Coordination Polymer and Hydrogen-Bonded Complexes of N-(2-Hydroxybenzyl)-l-serine. Crystal Growth and Design, 2009, 9, 4461-4470.	3.0	60
70	⁶Li MAS NMR Investigation of Electrochemical Lithiation of RuO₂: Evidence for an Interfacial Storage Mechanism. Chemistry of Materials, 2009, 21, 856-861.	6.7	64
71	Enhanced Potential of Amorphous Electrode Materials: Case Study of RuO₂. Zeitschrift Fur Anorganische Und Allgemeine Chemie, 2008, 634, 2011-2011.	1.2	2
72	Enhanced Potential of Amorphous Electrode Materials: Case Study of RuO₂. Advanced Materials, 2008, 20, 501-505.	21.0	185

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73	Ionic and electronic transport in single crystalline LiFePO4 grown by optical floating zone technique. Solid State Ionics, 2008, 179, 1683-1687.	2.7	183
74	Size effects and nanostructured materials for energy applications. Energy and Environmental Science, 2008, 1, 645.	30.8	169
75	Enhanced lithium storage and chemical diffusion in metal-LiF nanocomposites: Experimental and theoretical results. Physical Review B, 2007, 76, .	3.2	32
76	Mesoscopic Hole Conduction in Nanocrystalline SrTiO[sub 3]. Journal of the Electrochemical Society, 2007, 154, P69.	2.9	22
77	Anisotropy of Electronic and Ionic Transport in LiFePO[sub 4] Single Crystals. Electrochemical and Solid-State Letters, 2007, 10, A13.	2.2	287
78	Evidence for Interfacial-Storage Anomaly in Nanocomposites for Lithium Batteries from First-Principles Simulations. Physical Review Letters, 2006, 96, 058302.	7.8	200
79	Synthesis and Characterization of Nanocrystalline SrTiO3. Journal of the American Ceramic Society, 2006, 89, 060612075903003-???.	3.8	25
80	Electrochemical lithiation synthesis of nanoporous materials with superior catalytic and capacitive activity. Nature Materials, 2006, 5, 713-717.	27.5	219
81	Nano-ionics in the context of lithium batteries. Journal of Power Sources, 2006, 159, 171-178.	7.8	185
82	Non-Debye conductivity relaxation in a mixed glassformer system. Journal of Non-Crystalline Solids, 2005, 351, 1573-1576.	3.1	18
83	Li-Storage via Heterogeneous Reaction in Selected Binary Metal Fluorides and Oxides. Journal of the Electrochemical Society, 2004, 151, A1878.	2.9	559
84	Fully Reversible Homogeneous and Heterogeneous Li Storage in RuO2 with High Capacity. Advanced Functional Materials, 2003, 13, 621-625.	14.9	598
85	Effect of Cu-substitution on the conductivity of Ag-rich Aglâ€“CuI solid solutions. Journal of Physics and Chemistry of Solids, 2003, 64, 961-966.	4.0	24
86	Grain size effect on the universality of AC conductivity in SnO2. Journal of Physics and Chemistry of Solids, 2003, 64, 659-663.	4.0	52
87	Dielectric properties of 1 MeV electron-irradiated polyimide. Applied Physics Letters, 2002, 80, 640-642.	3.3	32
88	Electrical conductivity and dielectric behaviour of nanocrystalline NiFe2O4spinel. Journal of Physics Condensed Matter, 2002, 14, 3221-3237.	1.8	292
89	High-frequency dielectric behaviour of gadolinium substituted Niâ€“Zn ferrites. Materials Letters, 2001, 48, 210-214.	2.6	24
90	Ionic conductivity in solid solutions of PbF2 and YF3. Materials Research Bulletin, 2001, 36, 1743-1749.	5.2	12

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91	Dielectric, thermal, and mechanical properties of the semiorganic nonlinear optical crystal sodium p-nitrophenolate dihydrate. Journal of Applied Physics, 2000, 88, 5935-5940.	2.5	35
92	Thermal conductivity measurements at low temperatures. Bulletin of Materials Science, 1995, 18, 1007-1011.	1.7	1
93	Quenched lithium sulphate. Journal of Physics and Chemistry of Solids, 1994, 55, 39-48.	4.0	8
94	Mixed alkali effect in the 30[(1 â^' x)Li2O Â· xNa2O]: 70TeO2 glass system. Journal of Non-Crystalline Solids, 1994, 175, 51-58.	3.1	31
95	Crystallization studies of 30Li2O: 70TeO2 glass. Journal of Non-Crystalline Solids, 1993, 162, 253-262.	3.1	33
96	Calorimetric and electrical studies on quenched Li2So4.H2O. Solid State Communications, 1989, 70, 581-586.	1.9	8
97	A Study on the Capacity Degradation in Na3.2V1.8Zn0.2(PO4)3 Cathode and Hard Carbon Anode Based Sodium-Ion Cells. Journal of the Electrochemical Society, 0, , .	2.9	0