

Prasant Kumar Nayak

List of Publications by Year in descending order

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6186
citing authors

#	ARTICLE	IF	CITATIONS
1	Al-Doped Co-Free Layered-Spinel Mn/Ni Oxides as High-Capacity Cathode Materials for Advanced Li-Ion Batteries. ACS Applied Energy Materials, 2022, 5, 4279-4287.	2.5	3
2	Synergistic-effect of high Ni content and Na dopant towards developing a highly stable Li-Rich cathode in Li-ion batteries. Chemical Engineering Journal, 2022, 444, 136503.	6.6	11
3	The effect of synthesis and zirconium doping on the performance of nickel-rich NCM622 cathode materials for Li-ion batteries. Journal of Solid State Electrochemistry, 2021, 25, 1513-1530.	1.2	14
4	Structural Aspects of P2-type Na _{0.67} Mn _{0.6} Ni _{0.2} Li _{0.2} O ₂ (MNL) Stabilization by Lithium Defects as a Cathode Material for Sodium-ion Batteries. Advanced Functional Materials, 2021, 31, 2102939.	7.8	35
5	A Co- and Ni-Free P2/O3 Biphasic Lithium Stabilized Layered Oxide for Sodium-ion Batteries and its Cycling Behavior. Advanced Functional Materials, 2020, 30, 2003364.	7.8	80
6	Electrochemical Performance and Ageing Mechanisms of Sol-Gel Synthesized Na _{2/3} [Mn _{3/5} Fe _{2/5}]O ₂ for Sodium-ion Batteries and Supercaps, 2019, 2, 104-111.	2.4	11
7	Investigation of Li 1.17 Ni 0.20 Mn 0.53 Co 0.10 O 2 as an Interesting Li- and Mn-Rich Layered Oxide Cathode Material through Electrochemistry, Microscopy, and In-Situ Electrochemical Dilatometry. ChemElectroChem, 2019, 6, 2812-2819.	1.7	16
8	Exfoliated MoS ₂ as Electrode for All-Solid-State Rechargeable Lithium-Ion Batteries. Journal of Physical Chemistry C, 2019, 123, 12126-12134.	1.5	57
9	Reaching Highly Stable Specific Capacity with Integrated 0.6Li ₂ MnO ₃ ·xLiNi _{0.6} Co _{0.2} Mn _{0.2} O ₂ Cathode Materials. ChemElectroChem, 2018, 5, 1137-1146.		
10	Von Lithium- zu Natriumionenbatterien: Vorteile, Herausforderungen und Æberraschendes. Angewandte Chemie, 2018, 130, 106-126.	1.6	125
11	From Lithium-ion to Sodium-ion Batteries: Advantages, Challenges, and Surprises. Angewandte Chemie - International Edition, 2018, 57, 102-120.	7.2	1,547
12	Review on Challenges and Recent Advances in the Electrochemical Performance of High Capacity Li- and Mn-Rich Cathode Materials for Li-ion Batteries. Advanced Energy Materials, 2018, 8, 1702397.	10.2	475
13	Understanding the Role of Minor Molybdenum Doping in LiNi _{0.5} Co _{0.2} Mn _{0.3} O ₂ Electrodes: from Structural and Surface Analyses and Theoretical Modeling to Practical Electrochemical Cells. ACS Applied Materials & Interfaces, 2018, 10, 29608-29621.	4.0	97
14	Understanding the influence of Mg doping for the stabilization of capacity and higher discharge voltage of Li- and Mn-rich cathodes for Li-ion batteries. Physical Chemistry Chemical Physics, 2017, 19, 6142-6152.	1.3	65
15	Electrochemical Performance of Li- and Mn-Rich Cathodes in Full Cells with Prelithiated Graphite Negative Electrodes. ACS Energy Letters, 2017, 2, 544-548.	8.8	49
16	Electrochemical performance of Na _{0.6} [Li _{0.2} Ni _{0.2} Mn _{0.6}]O ₂ cathodes with high-working average voltage for Na-ion batteries. Journal of Materials Chemistry A, 2017, 5, 5858-5864.	5.2	35
17	In Situ Monitoring of Gravimetric and Viscoelastic Changes in 2D Intercalation Electrodes. ACS Energy Letters, 2017, 2, 1407-1415.	8.8	56
18	Electrochemical and Diffusional Investigation of Na ₂ Fe ^{II} PO ₄ F Fluorophosphate Sodium Insertion Material Obtained from Fe ^{III} Precursor. ACS Applied Materials & Interfaces, 2017, 9, 34961-34969.	4.0	28

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19	In situ real-time gravimetric and viscoelastic probing of surface films formation on lithium batteries electrodes. <i>Nature Communications</i> , 2017, 8, 1389.	5.8	69
20	Porous, hollow $\text{Li}_{1.2}\text{Mn}_{0.53}\text{Ni}_{0.13}\text{Co}_{0.13}\text{O}_2$ microspheres as a positive electrode material for Li-ion batteries. <i>Journal of Solid State Electrochemistry</i> , 2017, 21, 437-445.	1.2	12
21	Remarkably Improved Electrochemical Performance of Li- and Mn-Rich Cathodes upon Substitution of Mn with Ni. <i>ACS Applied Materials & Interfaces</i> , 2017, 9, 4309-4319.	4.0	39
22	Study of Cathode Materials for Lithium-Ion Batteries: Recent Progress and New Challenges. <i>Inorganics</i> , 2017, 5, 32.	1.2	68
23	Al Doping for Mitigating the Capacity Fading and Voltage Decay of Layered Li and Mn-Rich Cathodes for Li-Ion Batteries. <i>Advanced Energy Materials</i> , 2016, 6, 1502398.	10.2	360
24	Studies of a layered-spinel $\text{Li}[\text{Ni}_{1/3}\text{Mn}_{2/3}]\text{O}_2$ cathode material for Li-ion batteries synthesized by a hydrothermal precipitation. <i>Materials Science and Engineering B: Solid-State Materials for Advanced Technology</i> , 2016, 213, 131-139.	1.7	11
25	Effect of cycling conditions on the electrochemical performance of high capacity Li and Mn-rich cathodes for Li-ion batteries. <i>Journal of Power Sources</i> , 2016, 318, 9-17.	4.0	47
26	High-Capacity Layered-Spinel Cathodes for Li-Ion Batteries. <i>ChemSusChem</i> , 2016, 9, 2404-2413.	3.6	17
27	Improving Energy Density and Structural Stability of Manganese Oxide Cathodes for Na-Ion Batteries by Structural Lithium Substitution. <i>Chemistry of Materials</i> , 2016, 28, 9064-9076.	3.2	191
28	Effect of sonochemistry: Li- and Mn-rich layered high specific capacity cathode materials for Li-ion batteries. <i>Journal of Solid State Electrochemistry</i> , 2016, 20, 1683-1695.	1.2	4
29	Multiphase $\text{LiNi}_{0.33}\text{Mn}_{0.54}\text{Co}_{0.13}\text{O}_2$ Cathode Material with High Capacity Retention for Li-Ion Batteries. <i>ChemElectroChem</i> , 2015, 2, 1957-1965.	1.7	16
30	Improved capacity and stability of integrated Li and Mn rich layered-spinel $\text{Li}_{1.17}\text{Ni}_{0.25}\text{Mn}_{1.08}\text{O}_3$ cathodes for Li-ion batteries. <i>Journal of Materials Chemistry A</i> , 2015, 3, 14598-14608.	5.2	29
31	Sonochemical synthesis of $\text{LiNi}_{0.5}\text{Mn}_{1.5}\text{O}_4$ and its electrochemical performance as a cathode material for 5 V Li-ion batteries. <i>Ultrasonics Sonochemistry</i> , 2015, 26, 332-339.	3.8	23
32	Understanding the Effect of Lithium Bis(oxalato) Borate (LiBOB) on the Structural and Electrochemical Aging of Li and Mn Rich High Capacity $\text{Li}_{1.2}\text{Ni}_{0.16}\text{Mn}_{0.56}\text{Co}_{0.08}\text{O}_2$ Cathodes. <i>Journal of the Electrochemical Society</i> , 2015, 162, A596-A602.	1.3	47
33	Effect of Fe in suppressing the discharge voltage decay of high capacity Li-rich cathodes for Li-ion batteries. <i>Journal of Solid State Electrochemistry</i> , 2015, 19, 2781-2792.	1.2	71
34	Electrochemical Performance of a Layered-Spinel Integrated $\text{Li}[\text{Ni}_{1/3}\text{Mn}_{2/3}]\text{O}_2$ as a High Capacity Cathode Material for Li-Ion Batteries. <i>Chemistry of Materials</i> , 2015, 27, 2600-2611.	3.2	46
35	Temperature and potential dependence electrochemical impedance studies of LiMn_2O_4 . <i>Journal of Applied Electrochemistry</i> , 2014, 44, 61-71.	1.5	4
36	TEM and Raman spectroscopy evidence of layered to spinel phase transformation in layered $\text{LiNi}_{1/3}\text{Mn}_{1/3}\text{Co}_{1/3}\text{O}_2$ upon cycling to higher voltages. <i>Journal of Electroanalytical Chemistry</i> , 2014, 733, 6-19.	1.9	46

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37	Electrochemical and structural characterization of carbon coated $\text{Li}_{1.2}\text{Mn}_{0.56}\text{Ni}_{0.16}\text{Co}_{0.08}\text{O}_2$ and $\text{Li}_{1.2}\text{Mn}_{0.6}\text{Ni}_{0.2}\text{O}_2$ as cathode materials for Li-ion batteries. <i>Electrochimica Acta</i> , 2014, 137, 546-556.	2.6	91
38	Structural and Electrochemical Evidence of Layered to Spinel Phase Transformation of Li and Mn Rich Layered Cathode Materials of the Formulae $x\text{Li}[\text{Li}_{1/3}\text{Mn}_{2/3}\text{O}_2]_{2-x}\cdot(1-x)\text{LiMn}_{1/3}\text{Ni}_{1/3}\text{Co}_{1/3}\text{O}_2$	1.3	93
39	Collective Phase Transition Dynamics in Microarray Composite Li_xFePO_4 Electrodes Tracked by in Situ Electrochemical Quartz Crystal Admittance. <i>Journal of Physical Chemistry C</i> , 2013, 117, 15505-15514.	1.5	35
40	High Li storage capacity of poorly crystalline porous $\gamma\text{-MnO}_2$ prepared by hydrothermal route. <i>Journal of Electroanalytical Chemistry</i> , 2013, 703, 126-134.	1.9	8
41	Rapid sonochemical synthesis of mesoporous MnO_2 for supercapacitor applications. <i>Materials Science and Engineering B: Solid-State Materials for Advanced Technology</i> , 2012, 177, 849-854.	1.7	36
42	An EQCM investigation of capacitance of MnO_2 in electrolytes containing multivalent cations. <i>Journal of Electroanalytical Chemistry</i> , 2012, 685, 37-40.	1.9	7
43	Mesoporous MnO_2 synthesized by hydrothermal route for electrochemical supercapacitor studies. <i>Journal of Solid State Electrochemistry</i> , 2012, 16, 2739-2749.	1.2	24
44	Mesoporous MnO_2 synthesized by using a tri-block copolymer for electrochemical supercapacitor studies. <i>Microporous and Mesoporous Materials</i> , 2011, 143, 206-214.	2.2	46
45	Reversible Insertion of a Trivalent Cation onto MnO_2 Leading to Enhanced Capacitance. <i>Journal of the Electrochemical Society</i> , 2011, 158, A585.	1.3	21
46	Electrochemical insertion of Sr^{2+} ions onto nano $\gamma\text{-MnO}_2$ particles. <i>Materials Letters</i> , 2010, 64, 1319-1321.	1.3	0
47	An EQCM Investigation of Electrochemical Precipitation of $\text{Mn}(\text{OH})_2$ and Its Capacitance Behavior. <i>Electrochemical and Solid-State Letters</i> , 2010, 13, F29.	2.2	16
48	Simultaneous Electrodeposition of MnO_2 and $\text{Mn}(\text{OH})_2$ for Supercapacitor Studies. <i>Electrochemical and Solid-State Letters</i> , 2009, 12, A115.	2.2	33
49	Cobalt Hydroxide as a Capacitor Material: Tuning Its Potential Window. <i>Journal of the Electrochemical Society</i> , 2008, 155, A855.	1.3	37