Saravanan Kuppan

List of Publications by Year in descending order

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49 papers	3,088 citations	279798 23 h-index	330143 37 g-index
49 all docs	49 docs citations	49 times ranked	4789 citing authors

#	Article	IF	Citations
1	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
2	Na2Ti3O7: an intercalation based anode for sodium-ion battery applications. Journal of Materials Chemistry A, 2013, 1, 2653.	10.3	385
3	Mesoporous TiO2 with high packing density for superior lithium storage. Energy and Environmental Science, 2010, 3, 939.	30.8	267
4	Morphology controlled synthesis of LiFePO4/C nanoplates for Li-ion batteries. Energy and Environmental Science, 2010, 3, 457.	30.8	243
5	Î±-MoO3: A high performance anode material for sodium-ion batteries. Electrochemistry Communications, 2013, 31, 5-9.	4.7	162
6	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
7	Phase transformation mechanism in lithium manganese nickel oxide revealed by single-crystal hard X-ray microscopy. Nature Communications, 2017, 8, 14309.	12.8	124
8	Atomic-Resolution Visualization of Distinctive Chemical Mixing Behavior of Ni, Co, and Mn with Li in Layered Lithium Transition-Metal Oxide Cathode Materials. Chemistry of Materials, 2015, 27, 5393-5401.	6.7	108
9	Ni and Co Segregations on Selective Surface Facets and Rational Design of Layered Lithium Transitionâ€Metal Oxide Cathodes. Advanced Energy Materials, 2016, 6, 1502455.	19.5	100
10	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
11	Mesoscale Chemomechanical Interplay of the LiNi_{0.8}Co_{0.15}Al_{0.05}O₂ Cathode in Solid-State Polymer Batteries. Chemistry of Materials, 2019, 31, 491-501.	6.7	89
12	Techno-economic analysis of capacitive and intercalative water deionization. Energy and Environmental Science, 2020, 13, 1544-1560.	30.8	76
13	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
14	Revealing Anisotropic Spinel Formation on Pristine Liâ€•and Mnâ€Rich Layered Oxide Surface and Its Impact on Cathode Performance. Advanced Energy Materials, 2017, 7, 1602010.	19.5	57
15	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
16	Thermally-driven mesopore formation and oxygen release in delithiated NCA cathode particles. Journal of Materials Chemistry A, 2019, 7, 12593-12603.	10.3	41
17	The effect of synthesis parameters on the lithium storage performance of LiMnPO4/C. Electrochimica Acta, 2013, 105, 496-505.	5.2	40
18	Beyond Divalent Copper: A Redox Couple for Sodium Ion Battery Cathode Materials. ECS Electrochemistry Letters, 2015, 4, A41-A44.	1.9	38

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19	Phosphorus Enrichment as a New Composition in the Solid Electrolyte Interphase of High-Voltage Cathodes and Its Effects on Battery Cycling. Chemistry of Materials, 2015, 27, 7447-7451.	6.7	37
20	Controlling side reactions and self-discharge in high-voltage spinel cathodes: the critical role of surface crystallographic facets. Physical Chemistry Chemical Physics, 2015, 17, 26471-26481.	2.8	35
21	Lithium Storage Using Conversion Reaction in Maghemite and Hematite. Electrochemical and Solid-State Letters, 2010, 13, A132.	2.2	33
22	Synthesis, Structure, and Electrochemical Performance of High Capacity Li₂Cu_{0.5}Ni_{0.5}O₂ Cathodes. Chemistry of Materials, 2015, 27, 6746-6754.	6.7	31
23	Effect of Liquid Electrolyte Soaking on the Interfacial Resistance of Li₇La₃Zr₂O₁₂ for All-Solid-State Lithium Batteries. ACS Applied Materials & Interfaces, 2020, 12, 20605-20612.	8.0	26
24	Probing Heterogeneous Degradation of Catalyst in PEM Fuel Cells under Realistic Automotive Conditions with Multiâ€Modal Techniques. Advanced Energy Materials, 2021, 11, 2101794.	19.5	25
25	Crystal Chemistry and Electrochemistry of LixMn1.5Ni0.5O4 Solid Solution Cathode Materials. Chemistry of Materials, 2017, 29, 6818-6828.	6.7	24
26	Mapping of Heterogeneous Catalyst Degradation in Polymer Electrolyte Fuel Cells. Advanced Energy Materials, 2020, 10, 2000623.	19.5	24
27	Removal of Na+ and Ca2+ with Prussian blue analogue electrodes for brackish water desalination. Desalination, 2020, 487, 114479.	8.2	23
28	Understanding the Overlithiation Properties of LiNi_{0.6}Mn_{0.2}Co_{0.2}O₂ Using Electrochemistry and Depth-Resolved X-ray Absorption Spectroscopy. Journal of the Electrochemical Society, 2020, 167, 080514.	2.9	17
29	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
30	Long-term chemothermal stability of delithiated NCA in polymer solid-state batteries. Journal of Materials Chemistry A, 2019, 7, 27135-27147.	10.3	10
31	Magnetic properties and vanadium oxidation state in Î±-Li3V2(PO4)3/C composite: Magnetization and ESR measurements. Solid State Communications, 2021, 323, 114108.	1.9	8
32	A Study of Modelâ€Based Protective Fastâ€Charging and Associated Degradation in Commercial Smartphone Cells: Insights on Cathode Degradation as a Result of Lithium Depositions on the Anode. Advanced Energy Materials, 2021, 11, 2003019.	19.5	7
33	Reply to the â€˜Comment on â€œTechno-economic analysis of capacitive and intercalative water deionizationâ€â€™ by S. K. Patel, L. Wang and M. Elimelech, Energy Environ. Sci., 2021, 10.1039/D0EE03321A. Energy and Environmental Science, 2021, 14, 2499-2503.	30.8	3
34	Performance and lifetime of intercalative water deionization cells for mono- and divalent ion removal. Desalination, 2021, 517, 115218.	8.2	3
35	Cathode Materials: Ni and Co Segregations on Selective Surface Facets and Rational Design of Layered Lithium Transition-Metal Oxide Cathodes (Adv. Energy Mater. 9/2016). Advanced Energy Materials, 2016, 6, .	19.5	2
36	Location-Dependent Cobalt Deposition in Smartphone Cells upon Long-Term Fast-Charging Visualized by Synchrotron X-ray Fluorescence. Chemistry of Materials, 2021, 33, 6318-6328.	6.7	1

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37	Influence of Flow Rate on Catalyst Layer Degradation in Polymer Electrolyte Fuel Cells. ECS Meeting Abstracts, 2020, MA2020-02, 2345-2345.	0.0	1
38	Investigating Side Reactions and Coating Effects on High Voltage Layered Cathodes for Lithium Ion Batteries. Microscopy and Microanalysis, 2016, 22, 1312-1313.	0.4	0
39	Mesoscale Chemomechanical Interplay of the LiNi0.8Co0.15Al0.05O2 Cathode in Solid-State Polymer Batteries. ECS Meeting Abstracts, 2019, , .	0.0	0
40	Analysis of the Impact of Fast Charging on Aging for Smartphone Cells: A Case Study Using Synchrotron Based Techniques. ECS Meeting Abstracts, 2020, MA2020-01, 101-101.	0.0	0
41	(Invited) Understanding Chemical, Mechanical and Thermal Stability of NCA in Polymer Solid-State Batteries. ECS Meeting Abstracts, 2020, MA2020-01, 249-249.	0.0	0
42	Investigation of Li+ Insertion in NMC622 Cathode Material upon Deep Lithiation Via Electrochemistry and x-Ray Absorption Spectroscopy. ECS Meeting Abstracts, 2020, MA2020-01, 67-67.	0.0	0
43	Effect of Commercial Gas Diffusion Layers on Catalyst Durability of Polymer Electrolyte Fuel Cells in Varied Cathode Gas Environment. ECS Meeting Abstracts, 2021, MA2021-02, 1193-1193.	0.0	0
44	Investigation of Li⁺ Insertion in NMC622 Cathode Material upon Deep Lithiation Via Electrochemistry and x-Ray Absorption Spectroscopy. ECS Meeting Abstracts, 2020, MA2020-02, 122-122.	0.0	0
45	Mapping of Heterogeneous Catalyst Degradation in Polymer Electrolyte Fuel Cells. ECS Meeting Abstracts, 2020, MA2020-02, 2163-2163.	0.0	0
46	Catalyst Degradation in Polymer Electrolyte Fuel Cells with Multi-Modal Techniques: Understanding Phenomena Under Varied Gas and Relative Humidity. ECS Meeting Abstracts, 2020, MA2020-02, 2325-2325.	0.0	0
47	Analysis of the Impact of Fast Charging on Aging for Smartphone Cells: A Case Study Using Synchrotron Based Techniques. ECS Meeting Abstracts, 2020, MA2020-02, 598-598.	0.0	0
48	Carbon Corrosion in Polymer Electrolyte Fuel Cells: A Complex Interplay between Morphological Changes and Electrochemical Performance. ECS Meeting Abstracts, 2021, MA2021-02, 1957-1957.	0.0	0
49	Performance and Lifetime of Battery Desalination Cells Based on Nickel Hexacyanoferrate. ECS Meeting Abstracts, 2022, MA2022-01, 142-142.	0.0	0