Boris Markovsky

List of Publications by Year
in descending order

61 papers	5,430 citations	117625 34 h-index	118850 62 g-index
63 all docs	63 docs citations	63 times ranked	5001 citing authors

#	Article	IF	Citations
1	Double gas treatment: A successful approach for stabilizing the Li and Mn-rich NCM cathode materialsâ€™ electrochemical behavior. Energy Storage Materials, 2022, 45, 74-91.	18.0	17
2	Improved Electrochemical Behavior and Thermal Stability of Li and Mn-Rich Cathode Materials Modified by Lithium Sulfate Surface Treatment. Inorganics, 2022, 10, 39.	2.7	4
3	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.	5.1	3
4	Fluorination of Niâ€Rich Lithiumâ€Ion Battery Cathode Materials by Fluorine Gas: Chemistry, Characterization, and Electrochemical Performance in Fullâ€cells. Batteries and Supercaps, 2021, 4, 632-645.	4.7	12
5	Understanding the Role of Alumina (Al₂O₃), Pentalithium Aluminate (Li₅AlO₄), and Pentasodium Aluminate (Na₅AlO₄) Coatings on the Li and Mnâ€Rich NCM Cathode Material 0.33Li₂MnO₃·0.67Li(Ni_{0.4}Co_{0.2}Mn_{0.4})O₂ for	14.9	30
6	Electrochemical and Thermal Behavior of Modified Li and Mnâ€Rich Cathode Materials in Battery Prototypes: Impact of Pentasodium Aluminate Coating and Comprehensive Understanding of Its Evolution upon Cycling through Solidâ€State Nuclear Magnetic Resonance Analysis. Advanced Energy and Sustainability Research, 2021, 2, 2000089.	5.8	8
7	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.	2.5	14
8	Studies of Nickel-Rich LiNi0.85Co0.10Mn0.05O2 Cathode Materials Doped with Molybdenum Ions for Lithium-Ion Batteries. Materials, 2021, 14, 2070.	2.9	18
9	Boron doped Ni-rich LiNi0.85Co0.10Mn0.05O2 cathode materials studied by structural analysis, solid state NMR, computational modeling, and electrochemical performance. Energy Storage Materials, 2021, 42, 594-607.	18.0	42
10	Layered Cathode Materials for Lithium-Ion Batteries: Review of Computational Studies on LiNi_{1â€“xâ€“y}Co_xMn_yO₂ and LiNi_{1â€“xâ€“y}Co_xAl_yO₂. Chemistry of Materials, 2020, 32, 915-952.	6.7	196
11	Enhancement of Electrochemical Performance of Lithium and Manganese-Rich Cathode Materials via Thermal Treatment with SO₂. Journal of the Electrochemical Society, 2020, 167, 110563.	2.9	21
12	Electrochemical Activation of Li2MnO3 Electrodes at 0 Â°C and Its Impact on the Subsequent Performance at Higher Temperatures. Materials, 2020, 13, 4388.	2.9	11
13	Stabilized Behavior of LiNi_{0.85}Co_{0.10}Mn_{0.05}O₂ Cathode Materials Induced by Their Treatment with SO₂. ACS Applied Energy Materials, 2020, 3, 3609-3618.	5.1	25
14	Modification of Li- and Mn-Rich Cathode Materials via Formation of the Rock-Salt and Spinel Surface Layers for Steady and High-Rate Electrochemical Performances. ACS Applied Materials & Interfaces, 2020, 12, 32698-32711.	8.0	17
15	Fluorination of Liâ€Rich Lithiumâ€Ionâ€Battery Cathode Materials by Fluorine Gas: Chemistry, Characterization, and Electrochemical Performance in Half Cells. ChemElectroChem, 2019, 6, 3337-3349.	3.4	35
16	Improving Performance of LiNi_{0.8}Co_{0.1}Mn_{0.1}O₂ Cathode Materials for Lithium-Ion Batteries by Doping with Molybdenum-Ions: Theoretical and Experimental Studies. ACS Applied Energy Materials, 2019, 2, 4521-4534.	5.1	91
17	Structural and Electrochemical Aspects of LiNi_{0.8}Co_{0.1}Mn_{0.1}O₂ Cathode Materials Doped by Various Cations. ACS Energy Letters, 2019, 4, 508-516.	17.4	348
18	Reaching Highly Stable Specific Capacity with Integrated 0.6Li₂MnO₃â€‰:â€‰0.4LiNi_{0.6}Co_{0.2}Mn_{0.2}O₂ Cathode Materials. ChemElectroChem, 2018, 5, 1137-1146.	3.4	22

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19	Ammonia Treatment of 0.35Li₂MnO₃Â·0.65LiNi_{0.35}Mn_{0.45}Co_{0.20}O₂ Material: Insights from Solid-State NMR Analysis. Journal of Physical Chemistry C, 2018, 122, 3773-3779.	3.1	19
20	From Surface ZrO₂ Coating to Bulk Zr Doping by High Temperature Annealing of Nickelâ€Rich Lithiated Oxides and Their Enhanced Electrochemical Performance in Lithium Ion Batteries. Advanced Energy Materials, 2018, 8, 1701682.	19.5	443
21	Review on Challenges and Recent Advances in the Electrochemical Performance of High Capacity Liâ€• and Mnâ€Rich Cathode Materials for Liâ€Ion Batteries. Advanced Energy Materials, 2018, 8, 1702397.	19.5	475
22	Horizons for Liâ€Ion Batteries Relevant to Electroâ€Mobility: Highâ€Specificâ€Energy Cathodes and Chemically Active Separators. Advanced Materials, 2018, 30, e1801348.	21.0	105
23	Understanding the Role of Minor Molybdenum Doping in LiNi_{0.5}Co_{0.2}Mn_{0.3}O₂ Electrodes: from Structural and Surface Analyses and Theoretical Modeling to Practical Electrochemical Cells. ACS Applied Materials & Interfaces, 2018, 10, 29608-29621.	8.0	97
24	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.	2.8	65
25	Reviewâ€"Recent Advances and Remaining Challenges for Lithium Ion Battery Cathodes. Journal of the Electrochemical Society, 2017, 164, A6341-A6348.	2.9	143
26	Unraveling the Effects of Al Doping on the Electrochemical Properties of LiNi_{0.5}Co_{0.2}Mn_{0.3}O₂Using First Principles. Journal of the Electrochemical Society, 2017, 164, A6359-A6365.	2.9	118
27	Enhanced capacity and lower mean charge voltage of Li-rich cathodes for lithium ion batteries resulting from low-temperature electrochemical activation. RSC Advances, 2017, 7, 7116-7121.	3.6	25
28	Electrochemical Performance of Li- and Mn-Rich Cathodes in Full Cells with Prelithiated Graphite Negative Electrodes. ACS Energy Letters, 2017, 2, 544-548.	17.4	49
29	Studies of Spinel-to-Layered Structural Transformations in LiMn₂O₄ Electrodes Charged to High Voltages. Journal of Physical Chemistry C, 2017, 121, 9120-9130.	3.1	26
30	Highâ€Temperature Treatment of Liâ€Rich Cathode Materials with Ammonia: Improved Capacity and Mean Voltage Stability during Cycling. Advanced Energy Materials, 2017, 7, 1700708.	19.5	139
31	Studies of the Electrochemical Behavior of LiNi_{0.80}Co_{0.15}Al_{0.05}O₂Electrodes Coated with LiAlO₂. Journal of the Electrochemical Society, 2017, 164, A3266-A3275.	2.9	43
32	Origin of Structural Degradation During Cycling and Low Thermal Stability of Ni-Rich Layered Transition Metal-Based Electrode Materials. Journal of Physical Chemistry C, 2017, 121, 22628-22636.	3.1	199
33	Study of Cathode Materials for Lithium-Ion Batteries: Recent Progress and New Challenges. Inorganics, 2017, 5, 32.	2.7	68
34	Studies of a layered-spinel Li[Ni1/3Mn2/3]O2 cathode material for Li-ion batteries synthesized by a hydrothermal precipitation. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 2016, 213, 131-139.	3.5	11
35	Highâ€Capacity Layeredâ€Spinel Cathodes for Liâ€Ion Batteries. ChemSusChem, 2016, 9, 2404-2413.	6.8	17
36	LiNi_{0.8}Co_{0.15}Al_{0.05}O₂ Cathode Material: New Insights via ⁷Li and ²⁷Al Magic-Angle Spinning NMR Spectroscopy. Chemistry of Materials, 2016, 28, 7594-7604.	6.7	32

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37	Stabilizing nickel-rich layered cathode materials by a high-charge cation doping strategy: zirconium-doped LiNi_{0.6}Co_{0.2}Mn_{0.2}O₂. Journal of Materials Chemistry A, 2016, 4, 16073-16084.	10.3	295
38	Effect of sonochemistry: Li- and Mn-rich layered high specific capacity cathode materials for Li-ion batteries. Journal of Solid State Electrochemistry, 2016, 20, 1683-1695.	2.5	4
39	Thermodynamic and kinetic studies of LiNi_{0.5}Co_{0.2}Mn_{0.3}O₂ as a positive electrode material for Li-ion batteries using first principles. Physical Chemistry Chemical Physics, 2016, 18, 6799-6812.	2.8	126
40	Li⁺â€Ion Extraction/Insertion of Niâ€Rich Li_{1+<i>x</i>}(Ni_{<i>y</i>}Co_{<i>z</i>}Mn_{<i>z</i>})_{<i>w</i>}O₂ (0.005<<i>x</i><0.03; <i>y</i>:<i>z</i>=8:1, <i>w</i>â‰ˆ1) Electrodes: Inâ€…Situ XRD and Raman Spectroscopy Study. ChemElectroChem, 2015, 2, 1479-1486.	3.4	116
41	Sonochemical synthesis of LiNi0.5Mn1.5O4 and its electrochemical performance as a cathode material for 5 V Li-ion batteries. Ultrasonics Sonochemistry, 2015, 26, 332-339.	8.2	23
42	Studies of Aluminum-Doped LiNi_{0.5}Co_{0.2}Mn_{0.3}O₂: Electrochemical Behavior, Aging, Structural Transformations, and Thermal Characteristics. Journal of the Electrochemical Society, 2015, 162, A1014-A1027.	2.9	121
43	Sonochemical synthesis of HSiW/graphene catalysts for enhanced biomass hydrolysis. Green Chemistry, 2015, 17, 2418-2425.	9.0	27
44	Electrochemical Performance of a Layered-Spinel Integrated Li[Ni_{1/3}Mn_{2/3}]O₂ as a High Capacity Cathode Material for Li-Ion Batteries. Chemistry of Materials, 2015, 27, 2600-2611.	6.7	46
45	Phase Transitions in Li2MnO3 Electrodes at Various States-of-Charge. Electrochimica Acta, 2014, 123, 395-404.	5.2	54
46	Thermal processes in the systems with Li-battery cathode materials and LiPF6 -based organic solutions. Journal of Solid State Electrochemistry, 2014, 18, 2333-2342.	2.5	16
47	Structural and Electrochemical Evidence of Layered to Spinel Phase Transformation of Li and Mn Rich Layered Cathode Materials of the Formulae xLi[Li_{1/3}Mn_{2/3}]O₂.(1-x)LiMn_{1/3}Ni_{1/3}Co_{1/3}O₂	2.9	93
48	Study of the nanosized Li2MnO3: Electrochemical behavior, structure, magnetic properties, and vibrational modes. Electrochimica Acta, 2013, 97, 259-270.	5.2	89
49	Study of the Lithium-Rich Integrated Compound xLi₂MnO₃Â·(1-x)LiMO₂ (x around 0.5; M = Mn, Ni, Co; 2:2:1) and Its Electrochemical Activity as Positive Electrode in Lithium Cells. Journal of the Electrochemical Society, 2013, 160, A324-A337.	2.9	119
50	Study of the electrochemical behavior of the â€œinactiveâ€•Li2MnO3. Electrochimica Acta, 2012, 78, 32-39.	5.2	131
51	On the Surface Chemistry of LiMO[sub 2] Cathode Materials (M=[MnNi] and [MnNiCo]): Electrochemical, Spectroscopic, and Calorimetric Studies. Journal of the Electrochemical Society, 2010, 157, A1099.	2.9	86
52	Integrated Materials xLi[sub 2]MnO[sub 3]â‹…(1â^'x)LiMn[sub 1/3]Ni[sub 1/3]Co[sub 1/3]O[sub 2] (x=0.3,â€‚0.5,â€‚0.7) Synthesized. Journal of the Electrochemical Society, 2010, 157, A1121.	2.9	185
53	Characterizations of self-combustion reactions (SCR) for the production of nanomaterials used as advanced cathodes in Li-ion batteries. Thermochimica Acta, 2009, 493, 96-104.	2.7	19
54	A comparative study of electrodes comprising nanometric and submicron particles of LiNi0.50Mn0.50O2, LiNi0.33Mn0.33Co0.33O2, and LiNi0.40Mn0.40Co0.20O2 layered compounds. Journal of Power Sources, 2009, 189, 248-255.	7.8	141

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55	On the Performance of LiNi[sub 1/3]Mn[sub 1/3]Co[sub 1/3]O[sub 2] Nanoparticles as a Cathode Material for Lithium-Ion Batteries. Journal of the Electrochemical Society, 2009, 156, A938.	2.9	64
56	Comparing the Behavior of Nano- and Microsized Particles of LiMn[sub 1.5]Ni[sub 0.5]O[sub 4] Spinel as Cathode Materials for Li-Ion Batteries. Journal of the Electrochemical Society, 2007, 154, A682.	2.9	110
57	Studies of Nanosized LiNi[sub 0.5]Mn[sub 0.5]O[sub 2]-Layered Compounds Produced by Self-Combustion Reaction as Cathodes for Lithium-Ion Batteries. Electrochemical and Solid-State Letters, 2006, 9, A449.	2.2	32
58	Studies of cycling behavior, ageing, and interfacial reactions of LiNi0.5Mn1.5O4 and carbon electrodes for lithium-ion 5-V cells. Journal of Power Sources, 2006, 162, 780-789.	7.8	209
59	Electrochemical behavior of electrodes comprising micro- and nano-sized particles of LiNi0.5Mn1.5O4: A comparative study. Electrochimica Acta, 2005, 50, 5553-5560.	5.2	53
60	Nanoparticles of SnO Produced by Sonochemistry as Anode Materials for Rechargeable Lithium Batteries. Chemistry of Materials, 2002, 14, 4155-4163.	6.7	265
61	Sol-Gel-Derived Carbon Ceramic Electrodes: A New Lithium Intercalation Anode. Advanced Materials, 1998, 10, 577-580.	21.0	15