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	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
2	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
3	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
4	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
5	Nanoparticles of SnO Produced by Sonochemistry as Anode Materials for Rechargeable Lithium Batteries. Chemistry of Materials, 2002, 14, 4155-4163.	6.7	265
6	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
7	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
8	Layered Cathode Materials for Lithium-Ion Batteries: Review of Computational Studies on LiNi_{1â€"<i>x</i>â€"<i>y</i>}Co_{<i>x</i>}Mn_{<i>y</i>}O₂ and LiNi_{1â€"<i>x</i>â€"<i>y</i>}Co_{<i>x</i>}Al_{<i>y</i>}O₂. Chemistry of Materials, 2020, 32, 915-952.	6.7	196
9	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
10	Reviewâ€"Recent Advances and Remaining Challenges for Lithium Ion Battery Cathodes. Journal of the Electrochemical Society, 2017, 164, A6341-A6348.	2.9	143
11	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
12	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
13	Study of the electrochemical behavior of the â€œinactiveâ€• Li2MnO3. Electrochimica Acta, 2012, 78, 32-39.	5.2	131
14	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
15	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
16	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
17	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
18	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>}O<sub>2</sub (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

#	Article	IF	Citations
19	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
20	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
21	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
22	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}O<sub>2</su	2.9	93
23	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
24	Study of the nanosized Li2MnO3: Electrochemical behavior, structure, magnetic properties, and vibrational modes. Electrochimica Acta, 2013, 97, 259-270.	5.2	89
25	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
26	Study of Cathode Materials for Lithium-Ion Batteries: Recent Progress and New Challenges. Inorganics, 2017, 5, 32.	2.7	68
27	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
28	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
29	Phase Transitions in Li2MnO3 Electrodes at Various States-of-Charge. Electrochimica Acta, 2014, 123, 395-404.	5.2	54
30	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
31	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
32	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
33	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
34	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
35	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
36	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

#	Article	IF	Citations
37	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
38	Understanding the Role of Alumina (Al₂O₃), Pentalithium Aluminate (Li₅AlO₄), and Pentasodium Aluminate (Na₅AlO₄) Coatings on the Li and Mnâ€Rich NCM Cathode Material 0.33Li₂MnO₃Â·0.67Li(Ni_{0.4}Co_{0.2}Mn_{0.4})O₂ for Enhanced Electrochemical Performance. Advanced Functional Materials, 2021, 31, 2008083.	14.9	30
39	Sonochemical synthesis of HSiW/graphene catalysts for enhanced biomass hydrolysis. Green Chemistry, 2015, 17, 2418-2425.	9.0	27
40	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
41	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
42	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
43	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
44	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
45	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
46	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
47	Ammonia Treatment of 0.35Li₂MnO₃Â·0.65LiNi_{0.35}Mn_{0.45}Co_{0.20}O<sub>2</sub Material: Insights from Solid-State NMR Analysis. Journal of Physical Chemistry C, 2018, 122, 3773-3779.	3.1	19
48	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
49	Highâ€Capacity Layeredâ€Spinel Cathodes for Liâ€Ion Batteries. ChemSusChem, 2016, 9, 2404-2413.	6.8	17
50	Modification of Li- and Mn-Rich Cathode Materials <i>via</i> 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
51	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
52	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
53	Sol-Gel-Derived Carbon Ceramic Electrodes: A New Lithium Intercalation Anode. Advanced Materials, 1998, 10, 577-580.	21.0	15
54	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

#	Article	IF	Citations
55	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
56	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
57	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
58	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
59	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
60	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
61	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