

Mark N Obrovac

List of Publications by Year in descending order

Source: <https://exaly.com/author-pdf/243543/publications.pdf>

Version: 2024-02-01

116
papers

9,101
citations

109137

35
h-index

39575

94
g-index

117
all docs

117
docs citations

117
times ranked

8005
citing authors

#	ARTICLE	IF	CITATIONS
1	Alloy Negative Electrodes for Li-Ion Batteries. <i>Chemical Reviews</i> , 2014, 114, 11444-11502.	23.0	1,675
2	Structural Changes in Silicon Anodes during Lithium Insertion/Extraction. <i>Electrochemical and Solid-State Letters</i> , 2004, 7, A93.	2.2	1,652
3	Reversible Cycling of Crystalline Silicon Powder. <i>Journal of the Electrochemical Society</i> , 2007, 154, A103.	1.3	1,014
4	Thermal stability of Li_xCoO_2 , Li_xNiO_2 and $\delta\text{-MnO}_2$ and consequences for the safety of Li-ion cells. <i>Solid State Ionics</i> , 1994, 69, 265-270.	1.3	646
5	Alloy Design for Lithium-Ion Battery Anodes. <i>Journal of the Electrochemical Society</i> , 2007, 154, A849.	1.3	463
6	Reversible Insertion of Sodium in Tin. <i>Journal of the Electrochemical Society</i> , 2012, 159, A1801-A1805.	1.3	300
7	Crystal Structures and Electrochemical Performance of Air-Stable $\text{Na}_{2/3}\text{Ni}_{1/3}\text{CuMn}_{2/3}\text{O}_2$ in Sodium Cells. <i>Chemistry of Materials</i> , 2017, 29, 1623-1631.	3.2	160
8	Structure and electrochemistry of LiMO_2 (M=Ti, Mn, Fe, Co, Ni) prepared by mechanochemical synthesis. <i>Solid State Ionics</i> , 1998, 112, 9-19.	1.3	154
9	In Situ XRD Study of Silicon, Lead and Bismuth Negative Electrodes in Nonaqueous Sodium Cells. <i>Journal of the Electrochemical Society</i> , 2014, 161, A416-A421.	1.3	137
10	Structure and Electrochemistry of $\text{Na}_x\text{Fe}_x\text{Mn}_{1-x}\text{O}_2$ (1.0 $\leq x \leq$ 0.5) for Na-Ion Battery Positive Electrodes. <i>Journal of the Electrochemical Society</i> , 2013, 160, A361-A367.	1.3	124
11	The Electrochemical Displacement Reaction of Lithium with Metal Oxides. <i>Journal of the Electrochemical Society</i> , 2001, 148, A576.	1.3	123
12	A Mössbauer effect investigation of the Li-Sn system. <i>Journal of Alloys and Compounds</i> , 1999, 289, 135-142.	2.8	109
13	Effect of Heat Treatment on Si Electrodes Using Polyvinylidene Fluoride Binder. <i>Journal of the Electrochemical Society</i> , 2008, 155, A234.	1.3	108
14	$\text{Li}_{15}\text{Si}_4$ Formation in Silicon Thin Film Negative Electrodes. <i>Journal of the Electrochemical Society</i> , 2016, 163, A255-A261.	1.3	105
15	Electrochemically Active Lithia/Metal and Lithium Sulfide/Metal Composites. <i>Electrochemical and Solid-State Letters</i> , 2002, 5, A70.	2.2	92
16	High Energy Density Calendered Si Alloy/Graphite Anodes. <i>Journal of the Electrochemical Society</i> , 2014, 161, A1698-A1705.	1.3	89
17	Alloy Negative Electrodes for High Energy Density Metal-Ion Cells. <i>Journal of the Electrochemical Society</i> , 2011, 158, A1411.	1.3	86
18	Comparison of the Reactivity of Na_xC_6 and Li_xC_6 with Non-Aqueous Solvents and Electrolytes. <i>Electrochemical and Solid-State Letters</i> , 2011, 14, A130.	2.2	83

#	ARTICLE	IF	CITATIONS
19	The Reversible Magnesianation of Pb. <i>Electrochimica Acta</i> , 2015, 165, 162-165.	2.6	75
20	Si-alloy negative electrodes for Li-ion batteries. <i>Current Opinion in Electrochemistry</i> , 2018, 9, 8-17.	2.5	68
21	Evaluation of Mg[N(SO ₂ CF ₃) ₂]/Acetonitrile Electrolyte for Use in Mg-Ion Cells. <i>Journal of the Electrochemical Society</i> , 2012, 159, A2005-A2009.	1.3	67
22	A Comparison of the Reactions of the SiSn, SiAg, and SiZn Binary Systems with L3i. <i>Journal of the Electrochemical Society</i> , 2006, 153, A282.	1.3	59
23	Effect of Controlled-Atmosphere Storage and Ethanol Rinsing on NaNi _{0.5} Mn _{0.5} O ₂ for Sodium-Ion Batteries. <i>ACS Applied Materials & Interfaces</i> , 2018, 10, 38246-38254.	4.0	58
24	Investigation of the NaNi _x Mn _{1-x} O ₂ (0 ≤ x ≤ 1) System for Na-Ion Battery Cathode Materials. <i>Journal of the Electrochemical Society</i> , 2015, 162, A453-A459.	1.3	57
25	Combinatorial Investigations of Ni-Si Negative Electrode Materials for Li-Ion Batteries. <i>Journal of the Electrochemical Society</i> , 2015, 162, A1858-A1863.	1.3	54
26	Investigation of P2-Na _{2/3} Mn _{1/3} Fe _{1/3} Co _{1/3} O ₂ for Na-Ion Battery Positive Electrodes. <i>Journal of the Electrochemical Society</i> , 2014, 161, A2232-A2236.	1.3	47
27	NixSi1-xAlloys Prepared by Mechanical Milling as Negative Electrode Materials for Lithium Ion Batteries. <i>Journal of the Electrochemical Society</i> , 2016, 163, A13-A18.	1.3	47
28	A Simple Synthesis Route for High-Capacity SiO _x Anode Materials with Tunable Oxygen Content for Lithium-Ion Batteries. <i>Chemistry of Materials</i> , 2018, 30, 7418-7422.	3.2	46
29	Al-Si Thin-Film Negative Electrodes for Li-Ion Batteries. <i>Journal of the Electrochemical Society</i> , 2008, 155, A851.	1.3	45
30	Simple Model for the Capacity of Amorphous Silicon-Aluminum-Transition Metal Negative Electrode Materials. <i>Journal of the Electrochemical Society</i> , 2006, 153, A1201.	1.3	41
31	Al-M (M=Cr, Fe, Mn, Ni) Thin-Film Negative Electrode Materials. <i>Journal of the Electrochemical Society</i> , 2006, 153, A484.	1.3	41
32	Explanation for the 4.8-V plateau in LiCr _x Mn _{2-x} O ₄ . <i>Physical Review B</i> , 1998, 57, 5728-5733.	1.1	38
33	Investigation of O3-type Na _{0.9} Ni _{0.45} Mn _x Ti _{0.55-x} O ₂ (0 ≤ x ≤ 0.55) as positive electrode materials for sodium-ion batteries. <i>Electrochimica Acta</i> , 2017, 233, 284-291.	2.6	38
34	Low Voltage Sodium Intercalation in Na _x Ni _{x/2} Ti _{1-x/2} O ₂ (0 ≤ x ≤ 1.0). <i>Journal of the Electrochemical Society</i> , 2014, 161, A1158-A1163.	1.3	37
35	All-Dry Synthesis of Single Crystal NMC Cathode Materials for Li-Ion Batteries. <i>Journal of the Electrochemical Society</i> , 2020, 167, 130536.	1.3	37
36	(Cu ₆ Sn ₅) _{1-x} C _x active/inactive nanocomposite negative electrodes for Na-ion batteries. <i>Electrochimica Acta</i> , 2013, 112, 133-137.	2.6	36

#	ARTICLE	IF	CITATIONS
37	Sodium Insertion into Tin Cobalt Carbon Active/Inactive Nanocomposite. Journal of the Electrochemical Society, 2013, 160, A869-A872.	1.3	36
38	The Electrochemical Behavior of Polyimide Binders in Li and Na Cells. Journal of the Electrochemical Society, 2016, 163, A364-A372.	1.3	36
39	A small angle X-ray scattering and electrochemical study of the decomposition of wood during pyrolysis. Carbon, 2012, 50, 3717-3723.	5.4	35
40	Electrochemical Reaction of the $\text{Si}_{1-x}\text{Zn}_x$ Binary System with Li. Journal of the Electrochemical Society, 2005, 152, A2335.	1.3	31
41	Layered amorphous silicon as negative electrodes in lithium-ion batteries. Journal of Power Sources, 2016, 332, 290-298.	4.0	30
42	Stabilizing NaCrO_2 by Sodium Site Doping with Calcium. Journal of the Electrochemical Society, 2019, 166, A2058-A2064.	1.3	29
43	$\text{Ca}_6[\text{Cr}_2\text{N}_6]\text{H}$, the First Quaternary Nitride-Hydride. Inorganic Chemistry, 2003, 42, 5572-5578.	1.9	27
44	Rapid mechanochemical synthesis of amorphous alloys. AIP Advances, 2017, 7, .	0.6	27
45	Evaluation of Electrolyte Salts and Solvents for Na-Ion Batteries in Symmetric Cells. Journal of the Electrochemical Society, 2014, 161, A1748-A1752.	1.3	26
46	Investigation of the reversible sodiation of Sn foil by ex-situ X-ray diffractometry and Mössbauer effect spectroscopy. Journal of Alloys and Compounds, 2014, 617, 271-276.	2.8	26
47	The Impact of the Addition of Rare Earth Elements to $\text{Si}_{1-x}\text{Sn}_x$ Negative Electrode Materials for Li-Ion Batteries. Journal of the Electrochemical Society, 2006, 153, A1211.	1.3	25
48	Quantifying the cost effectiveness of non-aqueous potassium-ion batteries. Journal of Power Sources, 2020, 464, 228228.	4.0	25
49	Conflat Two and Three Electrode Electrochemical Cells. Journal of the Electrochemical Society, 2014, 161, A2182-A2187.	1.3	24
50	Lithium Insertion in Nanostructured $\text{Si}_{1-x}\text{Ti}_x$ Alloys. Journal of the Electrochemical Society, 2017, 164, A3006-A3010.	1.3	24
51	Structure and Electrochemistry of $\text{Na}_x\text{Fe}_x\text{Ti}_{1-x}\text{O}_2(1.0)$. Journal of Electrochemical Society, 2018, 165, A1801-A1805.	1.3	23
52	Honeycomb Compound $\text{Na}_3\text{Ni}_2\text{BiO}_6$ as Positive Electrode Material in Na Cells. Journal of the Electrochemical Society, 2016, 163, A2362-A2367.	1.3	23
53	Voronoi Tessellated Graphite Produced by Low Temperature Catalytic Graphitization from Renewable Resources. ChemSusChem, 2017, 10, 3409-3418.	3.6	23
54	Hexagonal platelet graphite and its application in Li-ion batteries. Carbon, 2018, 134, 507-518.	5.4	23

#	ARTICLE	IF	CITATIONS
55	Mechanofusion-derived Si-alloy/graphite composite electrode materials for Li-ion batteries. Journal of Materials Chemistry A, 2019, 7, 8335-8343.	5.2	23
56	Electrochemistry of Cu _x Si _{1-x} Alloys in Li Cells. Journal of the Electrochemical Society, 2016, 163, A1275-A1279.	1.3	22
57	The Electrochemical Reaction Mechanism of Tin Phosphide with Sodium. Journal of the Electrochemical Society, 2016, 163, A1188-A1191.	1.3	21
58	A comparison of sputtered and mechanically milled Cu ₆ Sn ₅ materials for Li-ion battery negative electrodes. Journal of Power Sources, 2012, 216, 139-144.	4.0	20
59	Structural and Electrochemical Investigation of Fe _x Si _{1-x} Thin Films in Li Cells. Journal of the Electrochemical Society, 2016, 163, A2011-A2016.	1.3	20
60	A high-quality mechanofusion coating for enhancing lithium-ion battery cathode material performance. MRS Communications, 2019, 9, 245-250.	0.8	20
61	A Combinatorial Investigation of Fe-Si-Zn Thin Film Negative Electrodes for Li-Ion Batteries. Journal of the Electrochemical Society, 2015, 162, A229-A234.	1.3	19
62	Mixed Transition Metal Titanate and Vanadate Negative Electrode Materials for Na-Ion Batteries. Journal of the Electrochemical Society, 2015, 162, A15-A20.	1.3	19
63	Electrochemical Activity of Nano-NiSi ₂ in Li Cells. Journal of the Electrochemical Society, 2016, 163, A2456-A2460.	1.3	19
64	Li Insertion in Ball Milled Si-Mn Alloys. Journal of the Electrochemical Society, 2018, 165, A1734-A1740.	1.3	17
65	Reversible lithium insertion in catalytically graphitized sugar carbon. Electrochemistry Communications, 2015, 60, 221-224.	2.3	16
66	The Electrochemistry of Amorphous Si-B Thin Film Electrodes in Li Cells. Journal of the Electrochemical Society, 2016, 163, A192-A196.	1.3	16
67	An Investigation of the Fe-Mn-Si System for Li-Ion Battery Negative Electrodes. Journal of the Electrochemical Society, 2019, 166, A21-A26.	1.3	16
68	Engineered Particle Synthesis by Dry Particle Microgranulation. Cell Reports Physical Science, 2020, 1, 100063.	2.8	16
69	An In Situ Study of the Electrochemical Reaction of Li with Amorphous Nanostructured Cu ₆ Sn ₅ + C. Journal of the Electrochemical Society, 2011, 158, A1328.	1.3	15
70	Phenolic Resin as an Inexpensive High Performance Binder for Li-Ion Battery Alloy Negative Electrodes. Journal of the Electrochemical Society, 2016, 163, A2035-A2039.	1.3	15
71	Implications of finite-size and surface effects on nanosize intercalation materials. Physical Review B, 2000, 61, 6713-6719.	1.1	14
72	Understanding interfacial impedance growth in porous electrodes containing blended active materials. Journal of Power Sources, 2019, 438, 226955.	4.0	14

#	ARTICLE	IF	CITATIONS
73	Spherically Smooth Cathode Particles by Mechanofusion Processing. Journal of the Electrochemical Society, 2019, 166, A2924-A2927.	1.3	14
74	Nanostructured Sn ₃₀ Co ₃₀ C ₄₀ alloys for lithium-ion battery negative electrodes prepared by horizontal roller milling. Journal of Alloys and Compounds, 2014, 595, 138-141.	2.8	13
75	Si-TiN alloy Li-ion battery anode materials prepared by reactive N ₂ gas milling. Journal of Power Sources, 2019, 438, 227003.	4.0	13
76	Hexagonal and monoclinic NaNi _{0.8} Co _{0.15} Al _{0.05} O ₂ (Na-NCA) for sodium ion batteries. Journal of Power Sources, 2019, 433, 226698.	4.0	13
77	Synthesis and Electrochemistry of O ₃ -type NaFeO ₂ NaCo _{0.5} Ni _{0.5} O ₂ Solid Solutions for Na-Ion Positive Electrodes. ACS Applied Materials & Interfaces, 2018, 10, 22013-22022.	4.0	12
78	Electrochemistry and Thermal Behavior of SiO _x Made by Reactive Gas Milling. Journal of the Electrochemical Society, 2020, 167, 110501.	1.3	12
79	An Investigation of the C-Zn System as Lithium-Ion Battery Anode Materials. Journal of the Electrochemical Society, 2014, 161, A643-A647.	1.3	11
80	Isothermal Calorimetry Evaluation of Metallurgical Silicon as a Negative Electrode Material for Li-Ion Batteries. Journal of the Electrochemical Society, 2021, 168, 030504.	1.3	11
81	SiC-Free Carbon-Silicon Alloys Prepared by Delithiation as Lithium-Ion Battery Negative Electrodes. Chemistry of Materials, 2019, 31, 3883-3890.	3.2	10
82	Polyaniline Electrode Activation in Li Cells. Journal of the Electrochemical Society, 2020, 167, 080501.	1.3	10
83	Inorganic Compounds as Binders for Si-Alloy Anodes. Journal of the Electrochemical Society, 2021, 168, 020505.	1.3	10
84	Selecting inactive materials with low electrolyte reactivity for lithium-ion cells. Journal of Power Sources, 2018, 397, 374-381.	4.0	9
85	Small Molecule Slurry Additives for Si Alloy Coatings with CMC/SBR Binder. Journal of the Electrochemical Society, 2019, 166, A3217-A3221.	1.3	9
86	Low Surface Area Si Alloy/Ionomer Composite Anodes for Lithium-Ion Batteries. Journal of the Electrochemical Society, 2014, 161, A1976-A1980.	1.3	8
87	Low Voltage Sodium Intercalation in Na _x V _x Ti _{1-x} O ₂ (2/3 ≤ x ≤ 1). Journal of the Electrochemical Society, 2017, 164, A490-A497.	1.3	8
88	Electrochemistry of Sputtered and Ball Milled Si-Fe-O Alloys in Li Cells. Journal of the Electrochemical Society, 2017, 164, A1165-A1172.	1.3	8
89	Mechanically Milled Fe-Si-Zn Alloys as Negative Electrodes for Li-Ion Batteries. Journal of the Electrochemical Society, 2015, 162, A2319-A2324.	1.3	7
90	Electrolyte Reactivity on Graphite and Copper as Measured in Lithium Double Half Cells. Journal of the Electrochemical Society, 2017, 164, A2977-A2986.	1.3	7

#	ARTICLE	IF	CITATIONS
91	Si(CO) _y Negative Electrodes for Li-Ion Batteries. Chemistry of Materials, 2021, 33, 7386-7395.	3.2	7
92	Room temperature crystallization kinetics of amorphous Cu ₆ Sn ₅ +C alloys. Journal of Alloys and Compounds, 2011, 509, 6705-6710.	2.8	6
93	Structural Changes in LiAlSi During Electrochemical Cycling. ECS Electrochemistry Letters, 2012, 1, A10-A12.	1.9	6
94	Mössbauer and Electrochemical Investigations of Carbon-Rich Fe _{1-x} C _x Films. Electrochimica Acta, 2015, 170, 16-24.	2.6	6
95	Si-TiN alloy Li-ion battery negative electrode materials made by N ₂ gas milling. MRS Communications, 2018, 8, 1352-1357.	0.8	6
96	Ball Milled Si-W Alloys: Part II. Thermal Behavior and Performance in Li Cells. Journal of the Electrochemical Society, 2019, 166, A2791-A2796.	1.3	5
97	Ball Milled Si-W Alloys: Part I. Microstructural and Phase Evolution during Ball Milling. Journal of the Electrochemical Society, 2019, 166, A1170-A1175.	1.3	5
98	Preparation of Low Surface Area Si-Alloy Anodes for Li-Ion Cells by Ball Milling. Journal of the Electrochemical Society, 2022, 169, 060540.	1.3	5
99	Li-ion battery negative electrodes based on the Fe _x Zn _{1-x} alloy system. Journal of Non-Crystalline Solids, 2015, 409, 183-190.	1.5	4
100	Electrochemistry of Catalytically Graphitized Ball Milled Carbon in Li Batteries. Journal of the Electrochemical Society, 2016, 163, A858-A866.	1.3	4
101	Combinatorial Study of the Si-Sn-O System as Negative Electrode Materials in Li-Ion Cells. Journal of the Electrochemical Society, 2016, 163, A203-A209.	1.3	3
102	Si-TiN alloy anode materials prepared by reactive N ₂ gas milling: thermal stability and electrochemistry in Li-cells. Electrochimica Acta, 2021, 396, 139259.	2.6	3
103	Synthesis, Lithium Insertion and Thermal Stability of Si ^δ -Mo Alloys. Journal of the Electrochemical Society, 2020, 167, 130531.	1.3	3
104	Quantitative measurement of solid electrolyte interphase growth on Si-based anode materials. Journal of Power Sources, 2022, 530, 231281.	4.0	3
105	Use of carbon black to eliminate surface charging effects in photoelectron spectroscopy measurements of powders. Applied Physics Letters, 1997, 71, 2262-2264.	1.5	2
106	Quantitative Determination of Carbon Dioxide Content in Organic Electrolytes by Infrared Spectroscopy. Journal of the Electrochemical Society, 2019, 166, A2467-A2470.	1.3	2
107	Quantitative composition determination by Mössbauer spectroscopy. MRS Communications, 2020, 10, 123-128.	0.8	2
108	The Electrochemistry of Sputtered and Ball Milled C _{1-x} B _x (0 ≤ x ≤ 0.60) Alloys in Li and Na Cells. Electrochimica Acta, 2016, 209, 285-292.	2.6	1

#	ARTICLE	IF	CITATIONS
109	Sintered polymeric binders for Li-ion battery alloy anodes. Canadian Journal of Chemistry, 2018, 96, 765-770.	0.6	1
110	Thermoelectrochemical Activation of CoO in Na Cells. Journal of the Electrochemical Society, 2018, 165, A1595-A1600.	1.3	1
111	Enhancing NMC/silicon alloy full cell cycling by adding water to the electrolyte. Journal of Applied Electrochemistry, 2021, 51, 1501-1507.	1.5	1
112	Current-Corrected Cycling Strategies for True Electrode Performance Measurement. Batteries and Supercaps, 0, , .	2.4	1
113	Ca ₆ [Cr ₂ N ₆]H, the First Quaternary Nitride-Hydride.. ChemInform, 2003, 34, no.	0.1	0
114	LiF as an Alloy Component or Slurry Additive in Si-Alloy Anodes. Journal of the Electrochemical Society, 2020, 167, 160524.	1.3	0
115	Effect of Post-Grinding and Heat Treatment on the Electrochemical Performance of NMC622 Li-Ion Battery Cathode Materials. ECS Meeting Abstracts, 2022, MA2022-01, 358-358.	0.0	0
116	(Invited) Engineered Electrode Materials Via Dry Processing. ECS Meeting Abstracts, 2022, MA2022-01, 412-412.	0.0	0