Claire Villevieille

List of Publications by Year
in descending order

96 papers	3,763 citations	117571 34 h-index	138417 58 g-index
96 all docs	96 docs citations	96 times ranked	5696 citing authors

#	Article	IF	Citations
1	Magnetically aligned graphite electrodes for high-rate performance Li-ion batteries. Nature Energy, 2016, 1, .	19.8	480
2	Direct observation of lithium polysulfides in lithiumâ€"sulfur batteries using operando X-rayÂdiffraction. Nature Energy, 2017, 2, .	19.8	257
3	Rechargeable Batteries: Grasping for the Limits of Chemistry. Journal of the Electrochemical Society, 2015, 162, A2468-A2475.	1.3	211
4	Differential Electrochemical Mass Spectrometry Study of the Interface of <i>x</i>Li₂MnO₃Â·(1â€"<i>x</i>)LiMO₂ (M = Ni, Co, and Mn) Material as a Positive Electrode in Li-Ion Batteries. Chemistry of Materials, 2014, 26, 5051-5057.	3.2	146
5	Ammonolyzed MoO₃ Nanobelts as Novel Cathode Material of Rechargeable Liâ€Ion Batteries. Advanced Energy Materials, 2013, 3, 606-614.	10.2	102
6	Ex situ and in situ Raman microscopic investigation of the differences between stoichiometric LiMO2 and high-energy xLi2MnO3Â·(1â€"x)LiMO2 (M = Ni, Co, Mn). Electrochimica Acta, 2014, 130, 206-212.	2.6	93
7	Enhancement of the high potential specific charge in layered electrode materials for lithium-ion batteries. Journal of Materials Chemistry A, 2014, 2, 8589.	5.2	92
8	Understanding the Interaction of the Carbonates and Binder in Na-Ion Batteries: A Combined Bulk and Surface Study. Chemistry of Materials, 2015, 27, 1210-1216.	3.2	88
9	Nanostructured transition metal phosphide as negative electrode for lithium-ion batteries. Ionics, 2008, 14, 183-190.	1.2	64
10	Electrochemical impedance spectroscopy of a Liâ€"S battery: Part 1. Influence of the electrode and electrolyte compositions on the impedance of symmetric cells. Electrochimica Acta, 2017, 244, 61-68.	2.6	64
11	NiSb2 as negative electrode for Li-ion batteries: An original conversion reaction. Journal of Power Sources, 2007, 172, 388-394.	4.0	61
12	Combined operando X-ray diffractionâ€"electrochemical impedance spectroscopy detecting solid solution reactions of LiFePO4 in batteries. Nature Communications, 2015, 6, 8169.	5.8	60
13	Self-supported binder-free hard carbon electrodes for sodium-ion batteries: insights into their sodium storage mechanisms. Journal of Materials Chemistry A, 2020, 8, 5558-5571.	5.2	60
14	SnO₂ Model Electrode Cycled in Li-Ion Battery Reveals the Formation of Li₂SnO₃ and Li₈SnO₆ Phases through Conversion Reactions. ACS Applied Materials & Interfaces, 2018, 10, 8712-8720.	4.0	59
15	Electrochemical Performance of All-Solid-State Li-Ion Batteries Based on Garnet Electrolyte Using Silicon as a Model Electrode. ACS Energy Letters, 2018, 3, 1006-1012.	8.8	58
16	Operando Visualization of Morphological Dynamics in Allâ€Solidâ€State Batteries. Advanced Energy Materials, 2019, 9, 1901547.	10.2	56
17	Effects of Solvent, Lithium Salt, and Temperature on Stability of Carbonate-Based Electrolytes for 5.0ÂV LiNi_{0.5}Mn_{1.5}O₄Electrodes. Journal of the Electrochemical Society, 2016, 163, A83-A89.	1.3	52
18	The good reactivity of lithium with nanostructured copper phosphide. Journal of Materials Chemistry, 2008, 18, 5956.	6.7	51

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19	How reliable is the Na metal as a counter electrode in Na-ion half cells?. Chemical Communications, 2019, 55, 1275-1278.	2.2	49
20	Influence of Conversion Material Morphology on Electrochemistry Studied with Operando Xâ€Ray Tomography and Diffraction. Advanced Materials, 2015, 27, 1676-1681.	11.1	48
21	Monitoring the chemical and electronic properties of electrolyteâ€"electrode interfaces in all-solid-state batteries using<i>operando</i>X-ray photoelectron spectroscopy. Physical Chemistry Chemical Physics, 2018, 20, 11123-11129.	1.3	48
22	Surface and morphological investigation of the electrode/electrolyte properties in an all-solid-state battery using a Li2S-P2S5 solid electrolyte. Journal of Electroceramics, 2017, 38, 207-214.	0.8	45
23	Direct evidence of morphological changes in conversion type electrodes in Li-ion battery by acoustic emission. Electrochemistry Communications, 2010, 12, 1336-1339.	2.3	44
24	In situ X-ray diffraction characterisation of Fe0.5TiOPO4 and Cu0.5TiOPO4 as electrode material for sodium-ion batteries. Electrochimica Acta, 2015, 176, 18-21.	2.6	44
25	Improved electrochemical performances of Li-rich nickel cobalt manganese oxide by partial substitution of Li + by Mg 2+. Journal of Power Sources, 2017, 359, 27-36.	4.0	44
26	Elucidating the Surface Reactions of an Amorphous Si Thin Film as a Model Electrode for Li-Ion Batteries. ACS Applied Materials & Interfaces, 2016, 8, 29791-29798.	4.0	41
27	A new ternary Li4FeSb2 structure formed upon discharge of the FeSb2/Li cell. Journal of Power Sources, 2009, 189, 324-330.	4.0	39
28	Influence of Na/Mn arrangements and P2/Pâ€²2 phase ratio on the electrochemical performance of Na_xMnO₂ cathodes for sodium-ion batteries. Journal of Materials Chemistry A, 2020, 8, 6022-6033.	5.2	39
29	CuSbS2 as a negative electrode material for sodium ion batteries. Journal of Power Sources, 2017, 342, 616-622.	4.0	38
30	A metastable Î²-sulfur phase stabilized at room temperature during cycling of high efficiency carbon fibreâ€"sulfur composites for Liâ€"S batteries. Journal of Materials Chemistry A, 2013, 1, 13089.	5.2	36
31	Interface and Safety Properties of Phosphorus-Based Negative Electrodes in Li-Ion Batteries. Chemistry of Materials, 2017, 29, 7151-7158.	3.2	36
32	Do imaging techniques add real value to the development of better post-Li-ion batteries?. Journal of Materials Chemistry A, 2018, 6, 3304-3327.	5.2	36
33	Chitin and Chitosanâ€"Structurally Related Precursors of Dissimilar Hard Carbons for Na-Ion Battery. ACS Applied Energy Materials, 2019, 2, 4841-4852.	2.5	36
34	Circular in situneutron powder diffraction cell for study of reaction mechanism in electrode materials for Li-ion batteries. RSC Advances, 2013, 3, 757-763.	1.7	35
35	Understanding Inhomogeneous Reactions in Liâ€Ion Batteries: Operando Synchrotron Xâ€Ray Diffraction on Twoâ€Layer Electrodes. Advanced Science, 2015, 2, 1500083.	5.6	35
36	Li/Fe substitution in Li-rich Ni, Co, Mn oxides for enhanced electrochemical performance as cathode materials. Journal of Materials Chemistry A, 2019, 7, 15215-15224.	5.2	34

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37	Mechanical <i>vs.</i> chemical stability of sulphide-based solid-state batteries. Which one is the biggest challenge to tackle? Overview of solid-state batteries and hybrid solid state batteries. Journal of Materials Chemistry A, 2020, 8, 10150-10167.	5.2	34
38	Effect of Size and Shape on Electrochemical Performance of Nano-Silicon-Based Lithium Battery. Nanomaterials, 2021, 11, 307.	1.9	34
39	Electrochemical activation of Li2MnO3 at elevated temperature investigated by in situ Raman microscopy. Electrochimica Acta, 2013, 109, 426-432.	2.6	33
40	Novel electrochemical cell designed for operando techniques and impedance studies. RSC Advances, 2014, 4, 6782.	1.7	33
41	Crystal structure evolution <i>via</i> operando neutron diffraction during long-term cycling of a customized 5 V full Li-ion cylindrical cell LiNi_{0.5}Mn_{1.5}O₄<i>vs.</i> graphite. Journal of Materials Chemistry A, 2017, 5, 25574-25582.	5.2	31
42	Operando Neutron Powder Diffraction Using Cylindrical Cell Design: The Case of LiNi0.5Mn1.5O4 vs Graphite. Journal of Physical Chemistry C, 2016, 120, 17268-17273.	1.5	30
43	A Cylindrical Cell for Operando Neutron Diffraction of Li-Ion Battery Electrode Materials. Frontiers in Energy Research, 2018, 6, .	1.2	30
44	Biowaste Lignin-Based Carbonaceous Materials as Anodes for Na-Ion Batteries. Journal of the Electrochemical Society, 2018, 165, A1400-A1408.	1.3	30
45	MoS2 coating on MoO3 nanobelts: A novel approach for a high specific charge electrode for rechargeable Li-ion batteries. Journal of Power Sources, 2015, 279, 636-644.	4.0	29
46	Comparative study of NiSb2 and FeSb2 as negative electrodes for Li-ion batteries. Solid State Ionics, 2011, 192, 351-355.	1.3	28
47	Antimony based negative electrodes for next generation Li-ion batteries. Journal of Materials Chemistry A, 2013, 1, 13011.	5.2	28
48	Correlated X-Ray 3D Ptychography and Diffraction Microscopy Visualize Links between Morphology and Crystal Structure of Lithium-Rich Cathode Materials. IScience, 2019, 11, 356-365.	1.9	27
49	Carbon modified Li2Ti3O7 ramsdellite electrode for Li-ion batteries. Electrochimica Acta, 2010, 55, 7080-7084.	2.6	26
50	Simultaneous in Situ X-ray Absorption Spectroscopy and X-ray Diffraction Studies on Battery Materials: The Case of Fe_{0.5}TiOPO₄. Journal of Physical Chemistry C, 2015, 119, 3466-3471.	1.5	26
51	Bulk and surface analyses of ageing of a 5V-NCM positive electrode material for lithium-ion batteries. Journal of Materials Chemistry A, 2014, 2, 6488.	5.2	23
52	Versatile Approach Combining Theoretical and Experimental Aspects of Raman Spectroscopy To Investigate Battery Materials: The Case of the LiNi_{0.5}Mn_{1.5}O₄ Spinel. Journal of Physical Chemistry C, 2016, 120, 16377-16382.	1.5	23
53	FeSn₂and CoSn₂Electrode Materials for Na-Ion Batteries. Journal of the Electrochemical Society, 2016, 163, A1306-A1310.	1.3	23
54	Elucidation of the reaction mechanisms of isostructural FeSn₂and CoSn₂negative electrodes for Na-ion batteries. Journal of Materials Chemistry A, 2017, 5, 3865-3874.	5.2	23

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55	Electrochemical impedance spectroscopy of a Liâ€“S battery: Part 2. Influence of separator chemistry on the lithium electrode/electrolyte interface. Electrochimica Acta, 2017, 255, 379-390.	2.6	23
56	Cr-Doped Li-Rich Nickel Cobalt Manganese Oxide as a Positive Electrode Material in Li-Ion Batteries to Enhance Cycling Stability. ACS Applied Energy Materials, 2020, 3, 8646-8657.	2.5	23
57	Insights into the chemical and electronic interface evolution of Li₄Ti₅O₁₂ cycled in Li₂Sâ€“P₂S₅ enabled by <i>operando</i> X-ray photoelectron spectroscopy. Journal of Materials Chemistry A, 2020, 8, 5138-5146.	5.2	23
58	Study of Graphite Cycling in Sulfide Solid Electrolytes. Journal of the Electrochemical Society, 2020, 167, 110558.	1.3	23
59	Surface/Interface Study on Full xLi₂MnO₃Â·(1 â^' x)LiMO₂(M = Ni,) Tj ETQq1 1 0.784314 rgBT /C	1.3	21
60	Elucidation of the reaction mechanism upon lithiation and delithiation of Cu_{0.5}TiOPO₄. Journal of Materials Chemistry A, 2014, 2, 12513-12518.	5.2	20
61	Self supported nickel antimonides based electrodes for Li ion battery. Solid State Ionics, 2011, 192, 298-303.	1.3	19
62	At the Heart of a Conversion Reaction: An Operando X-ray Absorption Spectroscopy Investigation of NiSb₂, a Negative Electrode Material for Li-Ion Batteries. Journal of Physical Chemistry C, 2014, 118, 27772-27780.	1.5	19
63	MnSn₂negative electrodes for Na-ion batteries: a conversion-based reaction dissected. Journal of Materials Chemistry A, 2016, 4, 19116-19122.	5.2	19
64	How to overcome Na deficiency in full cell using P2-phase sodium cathode â€“ A proof of concept study of Na-rhodizonate used as sodium reservoir. Journal of Power Sources, 2020, 450, 227617.	4.0	17
65	Accelerating Battery Characterization Using Neutron and Synchrotron Techniques: Toward a Multiâ€Modal and Multiâ€Scale Standardized Experimental Workflow. Advanced Energy Materials, 2022, 12, .	10.2	17
66	Lithium Iron Methylenediphosphonate: A Model Material for New Organicâ€“Inorganic Hybrid Positive Electrode Materials for Li Ion Batteries. Chemistry of Materials, 2015, 27, 7889-7895.	3.2	16
67	Co-Free P2â€“Na0.67Mn0.6Fe0.25Al0.15O2 as Promising Cathode Material for Sodium-Ion Batteries. ACS Applied Energy Materials, 2018, 1, 5960-5967.	2.5	16
68	Influence of Cut-Off Potential on the Electrochemistry of M_{0.5}TiOPO₄(M =) Tj ETQq0 0 0 rgBT /Overlock 10 T	1.3	15
69	Stroboscopic neutron diffraction applied to fast time-resolved <i>operando</i> studies on Li-ion batteries (d-LiNi_{0.5}Mn_{1.5}O₄<i>vs.</i> graphite). Journal of Materials Chemistry A, 2020, 8, 1288-1297.	5.2	15
70	Consequences of Electrolyte Degradation for the Electrochemical Performance of Li_{1+x}(Ni_aCo_bMn_{1-a-b})_{1-x}O₂. Journal of the Electrochemical Society, 2015, 162, A7072-A7077.	1.3	14
71	Performance-limiting factors of graphite in sulfide-based all-solid-state lithium-ion batteries. Electrochimica Acta, 2021, 389, 138735.	2.6	14
72	Impact of cobalt content in Na_{0.67}Mn_xFe_yCo_zO₂ (x + y + z = 1), a cathode material for sodium ion batteries. RSC Advances, 2017, 7, 13851-13857.	1.7	13

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73	Is the Liâ€"S battery an everlasting challenge for operando techniques?. Current Opinion in Electrochemistry, 2018, 9, 33-40.	2.5	13
74	A structural and electrochemical study of Ni0.5TiOPO4 synthesized via modified solution route. Electrochimica Acta, 2012, 77, 244-249.	2.6	12
75	Effect of metal ion and ball milling on the electrochemical properties of M0.5TiOPO4 (M=Ni, Cu, Mg). Electrochimica Acta, 2013, 93, 179-188.	2.6	11
76	Engineering of Sn and Preâ€Lithiated Sn as Negative Electrode Materials Coupled to Garnet Taâ€LLZO Solid Electrolyte for Allâ€Solidâ€State Li Batteries. Batteries and Supercaps, 2020, 3, 557-565.	2.4	10
77	Interfaces and Interphases in Batteries: How to Identify and Monitor Them Properly Using Surface Sensitive Characterization Techniques. Advanced Materials Interfaces, 2022, 9, .	1.9	9
78	Freeze-dryed LixMoO3 nanobelts used as cathode materials for lithium-ion batteries: A bulk and interface study. Journal of Power Sources, 2015, 297, 276-282.	4.0	8
79	Electrode Engineering of Conversion-based Negative Electrodes for Na-ion Batteries. Chimia, 2015, 69, 729-733.	0.3	7
80	MSnS₂(M = Cu, Fe) Electrode Family as Dual-Performance Electrodes for Liâ€"S and Liâ€"Ion Batteries. Journal of the Electrochemical Society, 2015, 162, A284-A287.	1.3	7
81	Mechanism of the carbonate-based-electrolyte degradation and its effects on the electrochemical performance of Li 1+x (Ni a Co b Mn 1-a-b) 1-x O 2 cells. Journal of Power Sources, 2016, 335, 91-97.	4.0	7
82	Phosphorus anionic redox activity revealed by operando P K-edge X-ray absorption spectroscopy on diphosphonate-based conversion materials in Li-ion batteries. Chemical Communications, 2018, 54, 4939-4942.	2.2	7
83	A low-temperature benzyl alcohol/benzyl mercaptan synthesis of iron oxysulfide/iron oxide composite materials for electrodes in Li-ion batteries. Journal of Materials Chemistry A, 2015, 3, 16112-16119.	5.2	6
84	Electrochemical characterization of rechargeable lithium batteries. , 2015, , 183-232.		6
85	Elucidation of reaction mechanisms of Ni 2 SnP in Li-ion and Na-ion systems. Journal of Power Sources, 2017, 365, 339-347.	4.0	6
86	The solid-state Li-ion conductor Li7TaO6: A combined computational and experimental study. Solid State Ionics, 2020, 347, 115226.	1.3	6
87	121Sb MÃ¶ssbauer study of the electrochemical reaction of NiSb2 vs lithium. Hyperfine Interactions, 2008, 187, 71-79.	0.2	5
88	Reducing Mass Transfer Effects on the Kinetics of 5V HE-NCM Electrode Materials for Li-Ion Batteries. Journal of the Electrochemical Society, 2014, 161, A871-A874.	1.3	5
89	Fe and Co methylene diphosphonates as conversion materials for Li-ion batteries. Journal of Power Sources, 2017, 342, 879-885.	4.0	5
90	Lithium chromium pyrophosphate as an insertion material for Li-ion batteries. Acta Crystallographica Section B: Structural Science, Crystal Engineering and Materials, 2015, 71, 661-667.	0.5	4

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91	Ligand influence in Li-ion battery hybrid active materials: Ni methylenediphosphonate vs. Ni dimethylamino methylenediphosphonate. Chemical Communications, 2017, 53, 5420-5423.	2.2	4
92	Impact of Water-Based Binder on the Electrochemical Performance of P2-Na0.67Mn0.6Fe0.25Co0.15O2 Electrodes in Na-Ion Batteries. Batteries, 2018, 4, 66.	2.1	4
93	Multiple redox couples cathode material for Li-ion battery: Lithium chromium phosphate. Journal of Energy Storage, 2018, 15, 266-273.	3.9	2
94	Architectured ZnOâ€"Cu particles for facile manufacturing of integrated Li-ion electrodes. Scientific Reports, 2020, 10, 12401.	1.6	0
95	Single solvent and single salt. Nature Energy, 2020, 5, 498-499.	19.8	0
96	121Sb MÃ¶ssbauer study of the electrochemical reaction of NiSb2 vs lithium. , 2008, , 1157-1165.		0