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	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
2	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
3	Performance-limiting factors of graphite in sulfide-based all-solid-state lithium-ion batteries. Electrochimica Acta, 2021, 389, 138735.	2.6	14
4	Effect of Size and Shape on Electrochemical Performance of Nano-Silicon-Based Lithium Battery. Nanomaterials, 2021, 11, 307.	1.9	34
5	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
6	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
7	Architectured ZnOâ€“Cu particles for facile manufacturing of integrated Li-ion electrodes. Scientific Reports, 2020, 10, 12401.	1.6	0
8	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
9	The solid-state Li-ion conductor Li7TaO6: A combined computational and experimental study. Solid State Ionics, 2020, 347, 115226.	1.3	6
10	Single solvent and single salt. Nature Energy, 2020, 5, 498-499.	19.8	0
11	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
12	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
13	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
14	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
15	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
16	Study of Graphite Cycling in Sulfide Solid Electrolytes. Journal of the Electrochemical Society, 2020, 167, 110558.	1.3	23
17	Operando Visualization of Morphological Dynamics in Allâ€Solidâ€State Batteries. Advanced Energy Materials, 2019, 9, 1901547.	10.2	56
18	How reliable is the Na metal as a counter electrode in Na-ion half cells?. Chemical Communications, 2019, 55, 1275-1278.	2.2	49

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19	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
20	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
21	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
22	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
23	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
24	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
25	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
26	Is the Liâ€“S battery an everlasting challenge for operando techniques?. Current Opinion in Electrochemistry, 2018, 9, 33-40.	2.5	13
27	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
28	Multiple redox couples cathode material for Li-ion battery: Lithium chromium phosphate. Journal of Energy Storage, 2018, 15, 266-273.	3.9	2
29	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
30	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
31	A Cylindrical Cell for Operando Neutron Diffraction of Li-Ion Battery Electrode Materials. Frontiers in Energy Research, 2018, 6, .	1.2	30
32	Biowaste Lignin-Based Carbonaceous Materials as Anodes for Na-Ion Batteries. Journal of the Electrochemical Society, 2018, 165, A1400-A1408.	1.3	30
33	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
34	Fe and Co methylene diphosphonates as conversion materials for Li-ion batteries. Journal of Power Sources, 2017, 342, 879-885.	4.0	5
35	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
36	Ligand influence in Li-ion battery hybrid active materials: Ni methylenediphosphonate vs. Ni dimethylamino methylenediphosphonate. Chemical Communications, 2017, 53, 5420-5423.	2.2	4

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37	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
38	Direct observation of lithium polysulfides in lithiumâ€“sulfur batteries using operando X-rayÂdiffraction. Nature Energy, 2017, 2, .	19.8	257
39	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
40	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
41	CuSbS2 as a negative electrode material for sodium ion batteries. Journal of Power Sources, 2017, 342, 616-622.	4.0	38
42	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
43	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
44	Interface and Safety Properties of Phosphorus-Based Negative Electrodes in Li-Ion Batteries. Chemistry of Materials, 2017, 29, 7151-7158.	3.2	36
45	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
46	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
47	FeSn₂and CoSn₂Electrode Materials for Na-Ion Batteries. Journal of the Electrochemical Society, 2016, 163, A1306-A1310.	1.3	23
48	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
49	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
50	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
51	Magnetically aligned graphite electrodes for high-rate performance Li-ion batteries. Nature Energy, 2016, 1, .	19.8	480
52	MnSn₂negative electrodes for Na-ion batteries: a conversion-based reaction dissected. Journal of Materials Chemistry A, 2016, 4, 19116-19122.	5.2	19
53	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
54	Understanding Inhomogeneous Reactions in Liâ€Ion Batteries: Operando Synchrotron Xâ€Ray Diffraction on Twoâ€Layer Electrodes. Advanced Science, 2015, 2, 1500083.	5.6	35

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55	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
56	Electrode Engineering of Conversion-based Negative Electrodes for Na-ion Batteries. Chimia, 2015, 69, 729-733.	0.3	7
57	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
58	Influence of Conversion Material Morphology on Electrochemistry Studied with Operando Xâ€Ray Tomography and Diffraction. Advanced Materials, 2015, 27, 1676-1681.	11.1	48
59	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
60	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
61	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
62	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
63	Surface/Interface Study on Full xLi₂MnO₃Â·(1 â^’ x)LiMO₂(M = Ni,) Tj ETQq1 1 0.784314 rgBT /C	1.3	21
64	Electrochemical characterization of rechargeable lithium batteries. , 2015, , 183-232.		6
65	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
66	Rechargeable Batteries: Grasping for the Limits of Chemistry. Journal of the Electrochemical Society, 2015, 162, A2468-A2475.	1.3	211
67	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
68	Combined operando X-ray diffractionâ€“electrochemical impedance spectroscopy detecting solid solution reactions of LiFePO4 in batteries. Nature Communications, 2015, 6, 8169.	5.8	60
69	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
70	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
71	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
72	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

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73	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
74	Novel electrochemical cell designed for operando techniques and impedance studies. RSC Advances, 2014, 4, 6782.	1.7	33
75	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
76	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
77	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
78	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
79	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
80	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
81	Antimony based negative electrodes for next generation Li-ion batteries. Journal of Materials Chemistry A, 2013, 1, 13011.	5.2	28
82	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
83	Electrochemical activation of Li2MnO3 at elevated temperature investigated by in situ Raman microscopy. Electrochimica Acta, 2013, 109, 426-432.	2.6	33
84	Ammonolyzed MoO₃ Nanobelts as Novel Cathode Material of Rechargeable Liâ€‐Ion Batteries. Advanced Energy Materials, 2013, 3, 606-614.	10.2	102
85	Influence of Cut-Off Potential on the Electrochemistry of M_{0.5}TiOPO₄(M =) Tj ETQq1 1 0.784314 rgBT /Over	1.3	15
86	A structural and electrochemical study of Ni0.5TiOPO4 synthesized via modified solution route. Electrochimica Acta, 2012, 77, 244-249.	2.6	12
87	Comparative study of NiSb2 and FeSb2 as negative electrodes for Li-ion batteries. Solid State Ionics, 2011, 192, 351-355.	1.3	28
88	Self supported nickel antimonides based electrodes for Li ion battery. Solid State Ionics, 2011, 192, 298-303.	1.3	19
89	Carbon modified Li2Ti3O7 ramsdellite electrode for Li-ion batteries. Electrochimica Acta, 2010, 55, 7080-7084.	2.6	26
90	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

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91	A new ternary Li4FeSb2 structure formed upon discharge of the FeSb2/Li cell. Journal of Power Sources, 2009, 189, 324-330.	4.0	39
92	121Sb MÃ¶ssbauer study of the electrochemical reaction of NiSb2 vs lithium. Hyperfine Interactions, 2008, 187, 71-79.	0.2	5
93	Nanostructured transition metal phosphide as negative electrode for lithium-ion batteries. Ionics, 2008, 14, 183-190.	1.2	64
94	The good reactivity of lithium with nanostructured copper phosphide. Journal of Materials Chemistry, 2008, 18, 5956.	6.7	51
95	121Sb MÃ¶ssbauer study of the electrochemical reaction of NiSb2 vs lithium. , 2008, , 1157-1165.		0
96	NiSb2 as negative electrode for Li-ion batteries: An original conversion reaction. Journal of Power Sources, 2007, 172, 388-394.	4.0	61