Renaud Bouchet

List of Publications by Year
in descending order

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93 papers	6,192 citations	126907 33 h-index	66911 78 g-index
95 all docs	95 docs citations	95 times ranked	7708 citing authors

#	Article	IF	Citations
1	Operando X-ray absorption tomography for the characterization of lithium metal electrode morphology and heterogeneity in a liquid Li/S cell. Journal of Power Sources, 2022, 520, 230854.	7.8	3
2	Electrochemical Impedance Spectroscopy of PEO-LATP Model Multilayers: Ionic Charge Transport and Transfer. ACS Applied Materials & Interfaces, 2022, 14, 13158-13168.	8.0	12
3	Operando XPS: A Novel Approach for Probing the Lithium/Electrolyte Interphase Dynamic Evolution. Journal of Physical Chemistry A, 2021, 125, 1069-1081.	2.5	12
4	Flash sintering of cationic conductive ceramics: A way to build multilayer systems. Journal of the American Ceramic Society, 2021, 104, 3845-3854.	3.8	8
5	Tomography Imaging of Lithium Electrodeposits Using Neutron, Synchrotron X-Ray, and Laboratory X-Ray Sources: A Comparison. Frontiers in Energy Research, 2021, 9, .	2.3	10
6	Novel single-ion conducting electrolytes based on vinylidene fluoride copolymer for lithium metal batteries. Journal of Power Sources, 2021, 498, 229920.	7.8	21
7	In Situ Imaging Comparison of Lithium Electrodeposits By Neutron and X-Ray (Synchrotron and) Tj ETQq1 1 0.784314 rgBT /Overlock	0.0	0
8	Electrochemical impedance spectroscopy study of lithiumâ€“sulfur batteries: Useful technique to reveal the Li/S electrochemical mechanism. Electrochimica Acta, 2020, 359, 136944.	5.2	74
9	New Interpretation of X-ray Photoelectron Spectroscopy of Imidazolium Ionic Liquid Electrolytes Based on Ionic Transport Analyses. Journal of Physical Chemistry B, 2020, 124, 7625-7635.	2.6	2
10	Quantification of the Local Topological Variations of Stripped and Plated Lithium Metal by X-ray Tomography. ACS Applied Materials & Interfaces, 2020, 12, 41390-41397.	8.0	5
11	Operando investigation of the lithium/sulfur battery system by coupled X-ray absorption tomography and X-ray diffraction computed tomography. Journal of Power Sources, 2020, 468, 228287.	7.8	18
12	Kinetics analysis of the electro-catalyzed degradation of high potential LiNi0,5Mn1,5O4 active materials. Journal of Power Sources, 2020, 469, 228337.	7.8	9
13	Fingerprinting Mean Composition of Lithium Polysulfide Standard Solutions by Applying High-Energy Resolution Fluorescence Detected X-ray Absorption Spectroscopy. Journal of Physical Chemistry Letters, 2020, 11, 5446-5450.	4.6	8
14	Effect of Electrode and Electrolyte Thicknesses on All-Solid-State Battery Performance Analyzed With the Sand Equation. Frontiers in Energy Research, 2020, 7, .	2.3	18
15	Magicâ€angleâ€spinningâ€induced local ordering in polymer electrolytes and its effects on solidâ€state diffusion and relaxation NMR measurements. Magnetic Resonance in Chemistry, 2020, 58, 1118-1129.	1.9	6
16	Electrochemical Flash Sintering: A New Tool to Obtain All Solid-State Batteries in Few Seconds. ECS Meeting Abstracts, 2020, MA2020-01, 310-310.	0.0	1
17	Can a â€œBadâ€•Salt be a Good Salt for Li Metal Batteries?. ECS Meeting Abstracts, 2020, MA2020-01, 283-283.	0.0	0
18	Simultaneous Monitoring of Structural Changes and Phase Distribution of LiFePO₄ Along the Cathode Thickness of Li Metal Polymer Battery. Journal of the Electrochemical Society, 2020, 167, 160517.	2.9	5

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19	Morphological Heterogeneities of Stripped and Plated Lithium Metal Analyzed By X-Ray Tomography. ECS Meeting Abstracts, 2020, MA2020-02, 755-755.	0.0	0
20	(Invited) Can a â€œBadâ€•Salt be a Good Salt for Li Metal Batteries. ECS Meeting Abstracts, 2020, MA2020-02, 681-681.	0.0	0
21	Novel Bulky Lithium Salts and Their Electrolytes for Safer Solid-State Lithium Metal Battery. ECS Meeting Abstracts, 2020, MA2020-02, 838-838.	0.0	0
22	Fast Determination of the Limiting Ionic Diffusion Coefficient in Lithium Metal Polymer Batteries. ECS Meeting Abstracts, 2020, MA2020-02, 894-894.	0.0	0
23	Crosslinked Single-Ion-Conductor Polymer Electrolytes. ECS Meeting Abstracts, 2020, MA2020-02, 981-981.	0.0	0
24	Influence of the Stretching on the Ionic Conductivity of Solid Polymer Electrolyte. ECS Meeting Abstracts, 2020, MA2020-02, 3442-3442.	0.0	0
25	Electrochemical Impedance Spectroscopy and X-ray Photoelectron Spectroscopy Study of Lithium Metal Surface Aging in Imidazolium-Based Ionic Liquid Electrolytes Performed at Open-Circuit Voltage. ACS Applied Materials & Interfaces, 2019, 11, 21955-21964.	8.0	29
26	Comparison of single-ion-conductor block-copolymer electrolytes with Polystyrene-TFSI and Polymethacrylate-TFSI structural blocks. Electrochimica Acta, 2018, 269, 250-261.	5.2	56
27	In Operando Small-Angle Neutron Scattering Study of Single-Ion Copolymer Electrolyte for Li-Metal Batteries. ACS Energy Letters, 2018, 3, 1-6.	17.4	25
28	A 1,2,3-triazolate lithium salt with ionic liquid properties at room temperature. Chemical Communications, 2018, 54, 9035-9038.	4.1	8
29	Remarkable impact of grains boundaries on the chemical delithiation kinetics of LiFePO4. Solid State Ionics, 2017, 300, 187-194.	2.7	16
30	Effect of composite electrode thickness on the electrochemical performances of all-solid-state li-ion batteries. Journal of Electroceramics, 2017, 38, 189-196.	2.0	19
31	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.	5.2	64
32	Direct observation of lithium polysulfides in lithiumâ€“sulfur batteries using operando X-rayÂdiffraction. Nature Energy, 2017, 2, .	39.5	257
33	New approach to design solid block copolymer electrolytes for 40 Â°C lithium metal battery operation. Electrochimica Acta, 2017, 238, 21-29.	5.2	22
34	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.	5.2	23
35	Restricted lithium ion dynamics in PEO-based block copolymer electrolytes measured by high-field nuclear magnetic resonance relaxation. Journal of Chemical Physics, 2017, 147, 134902.	3.0	11
36	Multiscale characterization of a lithium/sulfur battery by coupling operando X-ray tomography and spatially-resolved diffraction. Scientific Reports, 2017, 7, 2755.	3.3	47

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37	Influence of the binder and preparation process on the positive electrode electrochemical response and Li/S system performances. Electrochimica Acta, 2016, 210, 492-501.	5.2	34
38	Non-trivial network driven modifications of ion transport in an ionic liquid confined inside a polymer system. Molecular Systems Design and Engineering, 2016, 1, 391-401.	3.4	6
39	Vinyl monomers bearing a sulfonyl(trifluoromethane sulfonyl) imide group: synthesis and polymerization using nitroxide-mediated polymerization. Polymer Chemistry, 2016, 7, 6901-6910.	3.9	20
40	Investigation of non-woven carbon paper as a current collector for sulfur positive electrodeâ€"Understanding of the mechanism and potential applications for Li/S batteries. Electrochimica Acta, 2016, 211, 697-703.	5.2	22
41	Flash sintering of ionic conductors: The need of a reversible electrochemical reaction. Journal of the European Ceramic Society, 2016, 36, 1253-1260.	5.7	40
42	Lithium/Sulfur Batteries Upon Cycling: Structural Modifications and Species Quantification by In Situ and Operando Xâ€Ray Diffraction Spectroscopy. Advanced Energy Materials, 2015, 5, 1500165.	19.5	148
43	Non-woven carbon paper as current collector for Li-ion/Li2S system: Understanding of the first charge mechanism. Electrochimica Acta, 2015, 180, 178-186.	5.2	31
44	Optimization of Block Copolymer Electrolytes for Lithium Metal Batteries. Chemistry of Materials, 2015, 27, 4682-4692.	6.7	125
45	A comprehensive multiscale moisture transport analysis: From porous reference silicates to cement-based materials. European Physical Journal: Special Topics, 2015, 224, 1749-1768.	2.6	8
46	Elaboration of controlled size Li1.5Al0.5Ge1.5(PO4)3 crystallites from glass-ceramics. Solid State Ionics, 2014, 266, 44-50.	2.7	43
47	A stable lithium metal interface. Nature Nanotechnology, 2014, 9, 572-573.	31.5	36
48	Photo-Cross-Linked Diblock Copolymer Micelles: Quantitative Study of Photochemical Efficiency, Micelles Morphologies and their Thermal Behavior. Macromolecules, 2014, 47, 2420-2429.	4.8	9
49	Charge Transport in Nanostructured PSâ€"PEOâ€"PS Triblock Copolymer Electrolytes. Macromolecules, 2014, 47, 2659-2665.	4.8	112
50	Impact of the solute exclusion on the bed longitudinal diffusion coefficient and particle intra-tortuosity determined by ISEC. Journal of Chromatography A, 2014, 1325, 179-185.	3.7	11
51	Effect of Interfaces on the Melting of PEO Confined in Triblock PS-b-PEO-b-PS Copolymers. Langmuir, 2013, 29, 10874-10880.	3.5	36
52	Single-ion BAB triblock copolymers as highly efficient electrolytes for lithium-metal batteries. Nature Materials, 2013, 12, 452-457.	27.5	1,194
53	Morphology and reactivity of aluminium nanocrystalline powders. International Journal of Nanotechnology, 2012, 9, 618.	0.2	3
54	Separation of Bulk, Surface, and Topological Contributions to the Conductivity of Suspensions of Porous Particles. Journal of Physical Chemistry C, 2012, 116, 5090-5096.	3.1	6

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55	Mechanism of ion transport in PEO/LiTFSI complexes: Effect of temperature, molecular weight and end groups. Solid State Ionics, 2012, 227, 119-127.	2.7	215
56	The Stone Age Revisited: Building a Monolithic Inorganic Lithiumâ€Ion Battery. Advanced Functional Materials, 2012, 22, 2140-2147.	14.9	100
57	A New Approach to Develop Safe Allâ€Inorganic Monolithic Liâ€Ion Batteries. Advanced Energy Materials, 2011, 1, 179-183.	19.5	139
58	Influence of the structure of mesoporous adsorbents on transport properties. Microporous and Mesoporous Materials, 2011, 140, 97-102.	4.4	4
59	Structural changes and thermal properties of aluminium micro- and nano-powders. Acta Materialia, 2010, 58, 4224-4232.	7.9	47
60	Influence of Molecule Size on Its Transport Properties through a Porous Medium. Analytical Chemistry, 2010, 82, 2668-2679.	6.5	47
61	Structure and Chemical Bonding in Zr-Doped Anatase TiO2 Nanocrystals. Journal of Physical Chemistry C, 2008, 112, 43-47.	3.1	48
62	Tortuosity of Porous Particles. Analytical Chemistry, 2007, 79, 9115-9121.	6.5	210
63	Hot pressing of nanocrystalline TiO2 (anatase) ceramics with controlled microstructure. Journal of the European Ceramic Society, 2007, 27, 2641-2646.	5.7	41
64	Critical Role of Polymeric Binders on the Electronic Transport Properties of Composites Electrode. Journal of the Electrochemical Society, 2006, 153, A679.	2.9	110
65	Hot compaction of nanocrystalline TiO2 (anatase) ceramics. Mechanisms of densification: Grain size and doping effects. Acta Materialia, 2006, 54, 3575-3583.	7.9	26
66	Novel architecture of composite electrode for optimization of lithium battery performance. Journal of Power Sources, 2006, 157, 438-442.	7.8	21
67	Evaluation of GPE performances in lithium metal battery technology by means of simple polarization tests. Journal of Power Sources, 2006, 158, 564-570.	7.8	32
68	Electrical properties and defect chemistry of anatase (TiO2). Solid State Ionics, 2006, 177, 229-236.	2.7	92
69	Theoretical analysis of the impedance spectra of electroceramics Part 2: isotropic grain boundaries. Journal of Electroceramics, 2006, 16, 229-238.	2.0	27
70	Evolution of the electrodeâ€“electrolyte interface in a lithiumâ€“polymer battery. Solid State Ionics, 2006, 177, 141-143.	2.7	6
71	Dendrite short-circuit and fuse effect on Li/polymer/Li cells. Electrochimica Acta, 2006, 51, 5334-5340.	5.2	479
72	Local Atomic and Electronic Structure in Nanocrystalline Sn-Doped Anatase TiO2. ChemPhysChem, 2006, 7, 2377-2383.	2.1	27

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73	Room temperature lithium metal batteries based on a new Gel Polymer Electrolyte membrane. Journal of Power Sources, 2005, 144, 231-237.	7.8	27
74	Inter-electrode in situ concentration cartography in lithium/polymer electrolyte/lithium cells. Journal of Electroanalytical Chemistry, 2005, 584, 70-74.	3.8	26
75	Tailoring the Binder of Composite Electrode for Battery Performance Optimization. Electrochemical and Solid-State Letters, 2005, 8, A17.	2.2	44
76	Toward Understanding of Electrical Limitations (Electronic, Ionic) in LiMPO[sub 4] (M=Fe, Mn) Electrode Materials. Journal of the Electrochemical Society, 2005, 152, A913.	2.9	576
77	The Big Problem of Small Particles:â€‰ A Comparison of Methods for Determination of Particle Size in Nanocrystalline Anatase Powders. Chemistry of Materials, 2005, 17, 2378-2385.	6.7	256
78	Study and tailoring of composite and nanocomposite materials for lithium battery electrode application. Materials Research Society Symposia Proceedings, 2004, 856, BB12.4.1.	0.1	0
79	Improved composite electrode and lithium battery performance From smart use of the polymers and their properties. Materials Research Society Symposia Proceedings, 2004, 835, K10.3.1.	0.1	1
80	Lithium Metal Batteries Operating at Room Temperature Based on Different PEO-PVdF Separator Configurations. Journal of the Electrochemical Society, 2004, 151, A873.	2.9	25
81	Improvement of lithium battery performance through composite electrode microstructure optimization. Ionics, 2004, 10, 443-449.	2.4	6
82	Mixed potential type hydrogen sensor. Ionics, 2003, 9, 168-175.	2.4	12
83	EXAFS Study of Dopant Segregation (Zn, Nb) in Nanocrystalline Anatase (TiO2). Chemistry of Materials, 2003, 15, 4996-5002.	6.7	51
84	An EIS Study of the Anode Li/PEO-LiTFSI of a Li Polymer Battery. Journal of the Electrochemical Society, 2003, 150, A1385.	2.9	113
85	Theoretical Analysis of IS of Polycrystalline Materials with Blocking or Conducting Grain Boundaries: From Microcrystals to Nanocrystals. Journal of the Electrochemical Society, 2003, 150, E348.	2.9	30
86	A Solid-State Potentiometric Sensor Based on Polybenzimidazole for Hydrogen Determination in Air. Journal of the Electrochemical Society, 2002, 149, H119.	2.9	9
87	A thermodynamic approach to proton conductivity in acid-doped polybenzimidazole. Solid State Ionics, 2001, 145, 69-78.	2.7	81
88	Solid-state hydrogen sensor based on acid-doped polybenzimidazole. Sensors and Actuators B: Chemical, 2001, 76, 610-616.	7.8	23
89	Polybenzimidazole-Based Hydrogen Sensors I. Mechanism of Response with an E-TEK Gas Diffusion Electrode. Journal of the Electrochemical Society, 2000, 147, 3125.	2.9	23
90	Polybenzimidazole-Based Hydrogen Sensors II. Effect of the Electrode Preparation. Journal of the Electrochemical Society, 2000, 147, 3548.	2.9	15

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91	Proton conduction in acid doped polybenzimidazole. Solid State Ionics, 1999, 118, 287-299.	2.7	461
92	Acidâ€Doped Polybenzimidazole as the Membrane of Electrochemical Hydrogen Sensors. Journal of the Electrochemical Society, 1997, 144, L95-L97.	2.9	47
93	XPS and SEM-EDX Study of Electrolyte Nature Effect on Li Electrode in Lithium Metal Batteries. ACS Applied Energy Materials, 0, , .	5.1	17