

# 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	Single-ion BAB triblock copolymers as highly efficient electrolytes for lithium-metal batteries. <i>Nature Materials</i> , 2013, 12, 452-457.	27.5	1,194
2	Toward Understanding of Electrical Limitations (Electronic, Ionic) in LiMPO <sub>4</sub> (M=Fe, Mn) Electrode Materials. <i>Journal of the Electrochemical Society</i> , 2005, 152, A913.	2.9	576
3	Dendrite short-circuit and fuse effect on Li/polymer/Li cells. <i>Electrochimica Acta</i> , 2006, 51, 5334-5340.	5.2	479
4	Proton conduction in acid doped polybenzimidazole. <i>Solid State Ionics</i> , 1999, 118, 287-299.	2.7	461
5	Direct observation of lithium polysulfides in lithium-sulfur batteries using operando X-ray diffraction. <i>Nature Energy</i> , 2017, 2, .	39.5	257
6	The Big Problem of Small Particles: A Comparison of Methods for Determination of Particle Size in Nanocrystalline Anatase Powders. <i>Chemistry of Materials</i> , 2005, 17, 2378-2385.	6.7	256
7	Mechanism of ion transport in PEO/LiTFSI complexes: Effect of temperature, molecular weight and end groups. <i>Solid State Ionics</i> , 2012, 227, 119-127.	2.7	215
8	Tortuosity of Porous Particles. <i>Analytical Chemistry</i> , 2007, 79, 9115-9121.	6.5	210
9	Lithium/Sulfur Batteries Upon Cycling: Structural Modifications and Species Quantification by In Situ and Operando X-ray Diffraction Spectroscopy. <i>Advanced Energy Materials</i> , 2015, 5, 1500165.	19.5	148
10	A New Approach to Develop Safe All-Inorganic Monolithic Li-Ion Batteries. <i>Advanced Energy Materials</i> , 2011, 1, 179-183.	19.5	139
11	Optimization of Block Copolymer Electrolytes for Lithium Metal Batteries. <i>Chemistry of Materials</i> , 2015, 27, 4682-4692.	6.7	125
12	An EIS Study of the Anode Li/PEO-LiTFSI of a Li Polymer Battery. <i>Journal of the Electrochemical Society</i> , 2003, 150, A1385.	2.9	113
13	Charge Transport in Nanostructured PS-PEO-PS Triblock Copolymer Electrolytes. <i>Macromolecules</i> , 2014, 47, 2659-2665.	4.8	112
14	Critical Role of Polymeric Binders on the Electronic Transport Properties of Composites Electrode. <i>Journal of the Electrochemical Society</i> , 2006, 153, A679.	2.9	110
15	The Stone Age Revisited: Building a Monolithic Inorganic Lithium-Ion Battery. <i>Advanced Functional Materials</i> , 2012, 22, 2140-2147.	14.9	100
16	Electrical properties and defect chemistry of anatase (TiO <sub>2</sub> ). <i>Solid State Ionics</i> , 2006, 177, 229-236.	2.7	92
17	A thermodynamic approach to proton conductivity in acid-doped polybenzimidazole. <i>Solid State Ionics</i> , 2001, 145, 69-78.	2.7	81
18	Electrochemical impedance spectroscopy study of lithium-sulfur batteries: Useful technique to reveal the Li/S electrochemical mechanism. <i>Electrochimica Acta</i> , 2020, 359, 136944.	5.2	74

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19	Electrochemical impedance spectroscopy of a Li <sup>+</sup> /S battery: Part 1. Influence of the electrode and electrolyte compositions on the impedance of symmetric cells. <i>Electrochimica Acta</i> , 2017, 244, 61-68.	5.2	64
20	Comparison of single-ion-conductor block-copolymer electrolytes with Polystyrene-TFSI and Polymethacrylate-TFSI structural blocks. <i>Electrochimica Acta</i> , 2018, 269, 250-261.	5.2	56
21	EXAFS Study of Dopant Segregation (Zn, Nb) in Nanocrystalline Anatase (TiO <sub>2</sub> ). <i>Chemistry of Materials</i> , 2003, 15, 4996-5002.	6.7	51
22	Structure and Chemical Bonding in Zr-Doped Anatase TiO <sub>2</sub> Nanocrystals. <i>Journal of Physical Chemistry C</i> , 2008, 112, 43-47.	3.1	48
23	Acid-Doped Polybenzimidazole as the Membrane of Electrochemical Hydrogen Sensors. <i>Journal of the Electrochemical Society</i> , 1997, 144, L95-L97.	2.9	47
24	Structural changes and thermal properties of aluminium micro- and nano-powders. <i>Acta Materialia</i> , 2010, 58, 4224-4232.	7.9	47
25	Influence of Molecule Size on Its Transport Properties through a Porous Medium. <i>Analytical Chemistry</i> , 2010, 82, 2668-2679.	6.5	47
26	Multiscale characterization of a lithium/sulfur battery by coupling operando X-ray tomography and spatially-resolved diffraction. <i>Scientific Reports</i> , 2017, 7, 2755.	3.3	47
27	Tailoring the Binder of Composite Electrode for Battery Performance Optimization. <i>Electrochemical and Solid-State Letters</i> , 2005, 8, A17.	2.2	44
28	Elaboration of controlled size Li <sub>1.5</sub> Al <sub>0.5</sub> Ge <sub>1.5</sub> (PO <sub>4</sub> ) <sub>3</sub> crystallites from glass-ceramics. <i>Solid State Ionics</i> , 2014, 266, 44-50.	2.7	43
29	Hot pressing of nanocrystalline TiO <sub>2</sub> (anatase) ceramics with controlled microstructure. <i>Journal of the European Ceramic Society</i> , 2007, 27, 2641-2646.	5.7	41
30	Flash sintering of ionic conductors: The need of a reversible electrochemical reaction. <i>Journal of the European Ceramic Society</i> , 2016, 36, 1253-1260.	5.7	40
31	Effect of Interfaces on the Melting of PEO Confined in Triblock PS- <i>b</i> -PEO- <i>b</i> -PS Copolymers. <i>Langmuir</i> , 2013, 29, 10874-10880.	3.5	36
32	A stable lithium metal interface. <i>Nature Nanotechnology</i> , 2014, 9, 572-573.	31.5	36
33	Influence of the binder and preparation process on the positive electrode electrochemical response and Li/S system performances. <i>Electrochimica Acta</i> , 2016, 210, 492-501.	5.2	34
34	Evaluation of GPE performances in lithium metal battery technology by means of simple polarization tests. <i>Journal of Power Sources</i> , 2006, 158, 564-570.	7.8	32
35	Non-woven carbon paper as current collector for Li-ion/Li <sub>2</sub> S system: Understanding of the first charge mechanism. <i>Electrochimica Acta</i> , 2015, 180, 178-186.	5.2	31
36	Theoretical Analysis of IS of Polycrystalline Materials with Blocking or Conducting Grain Boundaries: From Microcrystals to Nanocrystals. <i>Journal of the Electrochemical Society</i> , 2003, 150, E348.	2.9	30

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37	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
38	Room temperature lithium metal batteries based on a new Gel Polymer Electrolyte membrane. Journal of Power Sources, 2005, 144, 231-237.	7.8	27
39	Theoretical analysis of the impedance spectra of electroceramics Part 2: isotropic grain boundaries. Journal of Electroceramics, 2006, 16, 229-238.	2.0	27
40	Local Atomic and Electronic Structure in Nanocrystalline Sn-Doped Anatase TiO <sub>2</sub> . ChemPhysChem, 2006, 7, 2377-2383.	2.1	27
41	Inter-electrode in situ concentration cartography in lithium/polymer electrolyte/lithium cells. Journal of Electroanalytical Chemistry, 2005, 584, 70-74.	3.8	26
42	Hot compaction of nanocrystalline TiO <sub>2</sub> (anatase) ceramics. Mechanisms of densification: Grain size and doping effects. Acta Materialia, 2006, 54, 3575-3583.	7.9	26
43	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
44	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
45	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
46	Solid-state hydrogen sensor based on acid-doped polybenzimidazole. Sensors and Actuators B: Chemical, 2001, 76, 610-616.	7.8	23
47	Electrochemical impedance spectroscopy of a Li-S battery: Part 2. Influence of separator chemistry on the lithium electrode/electrolyte interface. Electrochimica Acta, 2017, 255, 379-390.	5.2	23
48	Investigation of non-woven carbon paper as a current collector for sulfur positive electrode—Understanding of the mechanism and potential applications for Li/S batteries. Electrochimica Acta, 2016, 211, 697-703.	5.2	22
49	New approach to design solid block copolymer electrolytes for 40 °C lithium metal battery operation. Electrochimica Acta, 2017, 238, 21-29.	5.2	22
50	Novel architecture of composite electrode for optimization of lithium battery performance. Journal of Power Sources, 2006, 157, 438-442.	7.8	21
51	Novel single-ion conducting electrolytes based on vinylidene fluoride copolymer for lithium metal batteries. Journal of Power Sources, 2021, 498, 229920.	7.8	21
52	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
53	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
54	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

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55	Effect of Electrode and Electrolyte Thicknesses on All-Solid-State Battery Performance Analyzed With the Sand Equation. <i>Frontiers in Energy Research</i> , 2020, 7, .	2.3	18
56	XPS and SEM-EDX Study of Electrolyte Nature Effect on Li Electrode in Lithium Metal Batteries. <i>ACS Applied Energy Materials</i> , 0, , .	5.1	17
57	Remarkable impact of grains boundaries on the chemical delithiation kinetics of LiFePO <sub>4</sub> . <i>Solid State Ionics</i> , 2017, 300, 187-194.	2.7	16
58	Polybenzimidazole-Based Hydrogen Sensors II. Effect of the Electrode Preparation. <i>Journal of the Electrochemical Society</i> , 2000, 147, 3548.	2.9	15
59	Mixed potential type hydrogen sensor. <i>Ionics</i> , 2003, 9, 168-175.	2.4	12
60	Operando XPS: A Novel Approach for Probing the Lithium/Electrolyte Interphase Dynamic Evolution. <i>Journal of Physical Chemistry A</i> , 2021, 125, 1069-1081.	2.5	12
61	Electrochemical Impedance Spectroscopy of PEO-LATP Model Multilayers: Ionic Charge Transport and Transfer. <i>ACS Applied Materials &amp; Interfaces</i> , 2022, 14, 13158-13168.	8.0	12
62	Impact of the solute exclusion on the bed longitudinal diffusion coefficient and particle intra-tortuosity determined by ISEC. <i>Journal of Chromatography A</i> , 2014, 1325, 179-185.	3.7	11
63	Restricted lithium ion dynamics in PEO-based block copolymer electrolytes measured by high-field nuclear magnetic resonance relaxation. <i>Journal of Chemical Physics</i> , 2017, 147, 134902.	3.0	11
64	Tomography Imaging of Lithium Electrodeposits Using Neutron, Synchrotron X-Ray, and Laboratory X-Ray Sources: A Comparison. <i>Frontiers in Energy Research</i> , 2021, 9, .	2.3	10
65	A Solid-State Potentiometric Sensor Based on Polybenzimidazole for Hydrogen Determination in Air. <i>Journal of the Electrochemical Society</i> , 2002, 149, H119.	2.9	9
66	Photo-Cross-Linked Diblock Copolymer Micelles: Quantitative Study of Photochemical Efficiency, Micelles Morphologies and their Thermal Behavior. <i>Macromolecules</i> , 2014, 47, 2420-2429.	4.8	9
67	Kinetics analysis of the electro-catalyzed degradation of high potential LiNi <sub>0.5</sub> Mn <sub>1.5</sub> O <sub>4</sub> active materials. <i>Journal of Power Sources</i> , 2020, 469, 228337.	7.8	9
68	A comprehensive multiscale moisture transport analysis: From porous reference silicates to cement-based materials. <i>European Physical Journal: Special Topics</i> , 2015, 224, 1749-1768.	2.6	8
69	A 1,2,3-triazolate lithium salt with ionic liquid properties at room temperature. <i>Chemical Communications</i> , 2018, 54, 9035-9038.	4.1	8
70	Fingerprinting Mean Composition of Lithium Polysulfide Standard Solutions by Applying High-Energy Resolution Fluorescence Detected X-ray Absorption Spectroscopy. <i>Journal of Physical Chemistry Letters</i> , 2020, 11, 5446-5450.	4.6	8
71	Flash sintering of cationic conductive ceramics: A way to build multilayer systems. <i>Journal of the American Ceramic Society</i> , 2021, 104, 3845-3854.	3.8	8
72	Improvement of lithium battery performance through composite electrode microstructure optimization. <i>Ionics</i> , 2004, 10, 443-449.	2.4	6

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73	Evolution of the electrode-electrolyte interface in a lithium-polymer battery. <i>Solid State Ionics</i> , 2006, 177, 141-143.	2.7	6
74	Separation of Bulk, Surface, and Topological Contributions to the Conductivity of Suspensions of Porous Particles. <i>Journal of Physical Chemistry C</i> , 2012, 116, 5090-5096.	3.1	6
75	Non-trivial network driven modifications of ion transport in an ionic liquid confined inside a polymer system. <i>Molecular Systems Design and Engineering</i> , 2016, 1, 391-401.	3.4	6
76	Magic-angle spinning-induced local ordering in polymer electrolytes and its effects on solid-state diffusion and relaxation NMR measurements. <i>Magnetic Resonance in Chemistry</i> , 2020, 58, 1118-1129.	1.9	6
77	Quantification of the Local Topological Variations of Stripped and Plated Lithium Metal by X-ray Tomography. <i>ACS Applied Materials &amp; Interfaces</i> , 2020, 12, 41390-41397.	8.0	5
78	Simultaneous Monitoring of Structural Changes and Phase Distribution of $\text{LiFePO}_4$ Along the Cathode Thickness of Li Metal Polymer Battery. <i>Journal of the Electrochemical Society</i> , 2020, 167, 160517.	2.9	5
79	Influence of the structure of mesoporous adsorbents on transport properties. <i>Microporous and Mesoporous Materials</i> , 2011, 140, 97-102.	4.4	4
80	Morphology and reactivity of aluminium nanocrystalline powders. <i>International Journal of Nanotechnology</i> , 2012, 9, 618.	0.2	3
81	Operando X-ray absorption tomography for the characterization of lithium metal electrode morphology and heterogeneity in a liquid Li/S cell. <i>Journal of Power Sources</i> , 2022, 520, 230854.	7.8	3
82	New Interpretation of X-ray Photoelectron Spectroscopy of Imidazolium Ionic Liquid Electrolytes Based on Ionic Transport Analyses. <i>Journal of Physical Chemistry B</i> , 2020, 124, 7625-7635.	2.6	2
83	Improved composite electrode and lithium battery performance From smart use of the polymers and their properties. <i>Materials Research Society Symposia Proceedings</i> , 2004, 835, K10.3.1.	0.1	1
84	Electrochemical Flash Sintering: A New Tool to Obtain All Solid-State Batteries in Few Seconds. <i>ECS Meeting Abstracts</i> , 2020, MA2020-01, 310-310.	0.0	1
85	Study and tailoring of composite and nanocomposite materials for lithium battery electrode application. <i>Materials Research Society Symposia Proceedings</i> , 2004, 856, BB12.4.1.	0.1	0
86	Can a Bad Salt be a Good Salt for Li Metal Batteries?. <i>ECS Meeting Abstracts</i> , 2020, MA2020-01, 283-283.	0.0	0
87	In Situ Imaging Comparison of Lithium Electrodeposits By Neutron and X-Ray (Synchrotron and) Tj ETQq1 1 0.784314 rgBT /Overlock	0.0	0
88	Morphological Heterogeneities of Stripped and Plated Lithium Metal Analyzed By X-Ray Tomography. <i>ECS Meeting Abstracts</i> , 2020, MA2020-02, 755-755.	0.0	0
89	(Invited) Can a Bad Salt be a Good Salt for Li Metal Batteries. <i>ECS Meeting Abstracts</i> , 2020, MA2020-02, 681-681.	0.0	0
90	Novel Bulky Lithium Salts and Their Electrolytes for Safer Solid-State Lithium Metal Battery. <i>ECS Meeting Abstracts</i> , 2020, MA2020-02, 838-838.	0.0	0

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91	Fast Determination of the Limiting Ionic Diffusion Coefficient in Lithium Metal Polymer Batteries. ECS Meeting Abstracts, 2020, MA2020-02, 894-894.	0.0	0
92	Crosslinked Single-Ion-Conductor Polymer Electrolytes. ECS Meeting Abstracts, 2020, MA2020-02, 981-981.	0.0	0
93	Influence of the Stretching on the Ionic Conductivity of Solid Polymer Electrolyte. ECS Meeting Abstracts, 2020, MA2020-02, 3442-3442.	0.0	0