Daniel Rettenwander

List of Publications by Year
in descending order

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76 papers	3,480 citations	172207 29 h-index	138251 58 g-index
81 all docs	81 docs citations	81 times ranked	3229 citing authors

#	Article	IF	Citations
1	Blacklight sintering of ceramics. Materials Horizons, 2022, 9, 1717-1726.	6.4	15
2	Deep hydration of an Li_{7â€“3x}La₃Zr₂ M ^{III} _xO₁₂ solid-state electrolyte material: a case study on Al- and Ga-stabilized LLZO. Acta Crystallographica Section C, Structural Chemistry, 2022, 78, 1-6.	0.2	4
3	Water as a monomer: synthesis of an aliphatic polyethersulfone from divinyl sulfone and water. Chemical Science, 2022, 13, 6920-6928.	3.7	8
4	Facile synthesis of Al-stabilized lithium garnets by a solution-combustion technique for all solid-state batteries. Materials Advances, 2021, 2, 5181-5188.	2.6	10
5	An Operando calorimeter for high temperature electrochemical cells. JPhys Energy, 2021, 3, 034007.	2.3	0
6	Dislocations in ceramic electrolytes for solid-state Li batteries. Scientific Reports, 2021, 11, 8949.	1.6	14
7	Enabling High-Rate Plating in Solid-State Li Batteries By Interface Engineering and Pulse Plating. ECS Meeting Abstracts, 2021, MA2021-01, 434-434.	0.0	0
8	Co3+/La3+ Cross-Diffusion at the Li7La3Zr2O12 | LiCoO2 Interface. ECS Meeting Abstracts, 2021, MA2021-01, 436-436.	0.0	0
9	(Invited) Cation Transport across Interfaces in Solid-State Li Batteries. ECS Meeting Abstracts, 2021, MA2021-01, 154-154.	0.0	0
10	High-Performance Composite Polymer Electrolyte Membranes for Solid-State Lithium-Metal Batteries. ECS Meeting Abstracts, 2021, MA2021-01, 433-433.	0.0	0
11	Aging Behavior of Al- and Ga- Stabilized Li7La3Zr2O12 Garnet-Type, Solid-State Electrolyte Based on Powder and Single Crystal X-ray Diffraction. Crystals, 2021, 11, 721.	1.0	5
12	Investigating the electrochemical stability of Li₇La₃Zr₂O₁₂ solid electrolytes using field stress experiments. Journal of Materials Chemistry A, 2021, 9, 15226-15237.	5.2	17
13	Single-crystal neutron and X-ray diffraction study of garnet-type solid-state electrolyte Li₆La₃ZrTaO₁₂: an in situ temperature-dependence investigation (2.5 â‰¤ T â‰¤ 873â€…K). Acta Crystallographica Section B: Structural Science, Crystal Engineering and Materials, 2021, 77, 123-130.	0.5	6
14	Wet-Environment-Induced Structural Alterations in Single- and Polycrystalline LLZTO Solid Electrolytes Studied by Diffraction Techniques. ACS Applied Materials & Interfaces, 2021, 13, 350-359.	4.0	14
15	Role of Filler Content and Morphology in LLZO/PEO Membranes. Frontiers in Energy Research, 2021, 9, .	1.2	11
16	Study on the structural phase transitions in NaSICON-type compounds using Ag₃Sc₂(PO₄)₃ as a model system. Acta Crystallographica Section B: Structural Science, Crystal Engineering and Materials, 2021, 77, 10-22.	0.5	2
17	Ion dynamics in Al-Stabilized Li7La3Zr2O12 single crystals â€“ Macroscopic transport and the elementary steps of ion hopping. Energy Storage Materials, 2020, 24, 220-228.	9.5	37
18	Lowering the Interfacial Resistance in Li6.4La3Zr1.4Ta0.6O12 | Poly(Ethylene Oxide) Composite Electrolytes. Cell Reports Physical Science, 2020, 1, 100214.	2.8	10

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19	Highly Conductive Garnet-Type Electrolytes: Access to Li_{6.5}La₃Zr_{1.5}Ta_{0.5}O₁₂ Prepared by Molten Salt and Solid-State Methods. ACS Applied Materials & Interfaces, 2020, 12, 48580-48590.	4.0	24
20	Anomalies in Bulk Ion Transport in the Solid Solutions of Li₇La₃M₂O₁₂ (M = Hf, Sn) and Li₅La₃Ta₂O₁₂. Journal of Physical Chemistry C, 2020, 124, 16796-16805.	1.5	9
21	The Electronic Conductivity of Single Crystalline Gaâ€Stabilized Cubic Li₇La₃Zr₂O₁₂: A Technologically Relevant Parameter for Allâ€Solidâ€State Batteries. Advanced Materials Interfaces, 2020, 7, 2000450.	1.9	33
22	The natural critical current density limit for Li₇La₃Zr₂O₁₂ garnets. Journal of Materials Chemistry A, 2020, 8, 15782-15788.	5.2	90
23	Lithium-Ion Transport in Nanocrystalline Spinel-Type Li[InxLiy]Br4 as Seen by Conductivity Spectroscopy and NMR. Frontiers in Chemistry, 2020, 8, 100.	1.8	1
24	Spatially resolved stoichiometry determination of Li₇La₃Zr₂O₁₂ solid-state electrolytes using LA-ICP-OES. Journal of Analytical Atomic Spectrometry, 2020, 35, 972-983.	1.6	6
25	On the dependence of ionic transport on crystal orientation in NaSICON-type solid electrolytes. JPhys Energy, 2020, 2, 035003.	2.3	4
26	Very High Lithium Diffusion in LiTi2(PS4)3 through Energy Landscape Frustration. ECS Meeting Abstracts, 2020, MA2020-01, 79-79.	0.0	0
27	Lowering the Interfacial Resistance in LLZTO:PEO Electrolytes By Covalent Surface Modifications. ECS Meeting Abstracts, 2020, MA2020-02, 962-962.	0.0	0
28	Synthesis of Li₇La₃Zr₂O₁₂ Li-Ion Conducting Electrolytes By a Rapid Solution-Combustion Method. ECS Meeting Abstracts, 2020, MA2020-02, 941-941.	0.0	1
29	On the Dependence of Ionic Transport on Crystal Orientation in Nasicon-Type Solid Electrolytes. ECS Meeting Abstracts, 2020, MA2020-02, 946-946.	0.0	1
30	One Step Closer to Realizing Solid-State Batteries with Cubic Li7La3Zr2O12 Garnets. CheM, 2019, 5, 1695-1696.	5.8	7
31	Superionic Diffusion through Frustrated Energy Landscape. CheM, 2019, 5, 2450-2460.	5.8	92
32	Producing High Concentrations of Hydrogen in Palladium via Electrochemical Insertion from Aqueous and Solid Electrolytes. Chemistry of Materials, 2019, 31, 4234-4245.	3.2	32
33	Lithium ion dynamics in LiZr₂(PO₄)₃ and Li_{1.4}Ca_{0.2}Zr_{1.8}(PO₄)₃. Dalton Transactions, 2019, 48, 9376-9387.	1.6	17
34	Substitutional disorder: structure and ion dynamics of the argyrodites Li₆PS₅Cl, Li₆PS₅Br and Li₆PS₅I. Physical Chemistry Chemical Physics, 2019, 21, 8489-8507.	1.3	133
35	Apparatus for operando x-ray diffraction of fuel electrodes in high temperature solid oxide electrochemical cells. Review of Scientific Instruments, 2019, 90, 023910.	0.6	6
36	Local Li-ion conductivity changes within Al stabilized Li₇La₃Zr₂O₁₂ and their relationship to three-dimensional variations of the bulk composition. Journal of Materials Chemistry A, 2019, 7, 6818-6831.	5.2	30

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37	Proton Bulk Diffusion in Cubic Li₇La₃Zr₂O₁₂ Garnets as Probed by Single X-ray Diffraction. Journal of Physical Chemistry C, 2019, 123, 1094-1098.	1.5	17
38	Arrhenius Behavior of the Bulk Na-Ion Conductivity in Na₃Sc₂(PO₄)₃ Single Crystals Observed by Microcontact Impedance Spectroscopy. Chemistry of Materials, 2018, 30, 1776-1781.	3.2	16
39	The origin of conductivity variations in Al-stabilized Li7La3Zr2O12 ceramics. Solid State Ionics, 2018, 319, 203-208.	1.3	46
40	Interface Instability of Fe-Stabilized Li₇La₃Zr₂O₁₂ versus Li Metal. Journal of Physical Chemistry C, 2018, 122, 3780-3785.	1.5	83
41	Bulk and grain-boundary ionic conductivity in sodium zirconophosphosilicate Na3Zr2(SiO4)2PO4 (NASICON). Chemical Physics Letters, 2018, 701, 147-150.	1.2	37
42	Lithium Metal Penetration Induced by Electrodeposition through Solid Electrolytes: Example in Single-Crystal Li₆La₃ZrTaO₁₂Garnet. Journal of the Electrochemical Society, 2018, 165, A3648-A3655.	1.3	172
43	Untangling the Structure and Dynamics of Lithium-Rich Anti-Perovskites Envisaged as Solid Electrolytes for Batteries. Chemistry of Materials, 2018, 30, 8134-8144.	3.2	70
44	Nuclear Spin Relaxation in Nanocrystalline Î²-Li₃PS₄ Reveals Low-Dimensional Li Diffusion in an Isotropic Matrix. Chemistry of Materials, 2018, 30, 7575-7586.	3.2	29
45	Lithiumâ€Festelektrolyte fÃ¼r Energiespeicher. Nachrichten Aus Der Chemie, 2018, 66, 499-504.	0.0	0
46	Fast Na ion transport triggered by rapid ion exchange on local length scales. Scientific Reports, 2018, 8, 11970.	1.6	22
47	Criteria for Lithium â€œDendriteâ€•Propagation Evaluated in Single Crystal Solid Electrolytes. ECS Meeting Abstracts, 2018, , .	0.0	0
48	Degradation of Li-Oxide Garnets in Humidity, Air and Aqueous Solutions: A Study Using a Large Li6.4La3ZrTaO12 Single Crystal. ECS Meeting Abstracts, 2018, , .	0.0	0
49	Ion Dynamics in Al-Doped Cubic Li7La3Zr2O12 Garnet-Type Single Crystals. ECS Meeting Abstracts, 2018, , .	0.0	0
50	Go in and Go out â€" Change in Local Structure and Diffusivity in Monoclinic Li3+X V2(PO4)3 upon Li Insertion and Extraction. ECS Meeting Abstracts, 2018, , .	0.0	0
51	Structure and Vibrational Dynamics of NASICON-Type LiTi₂(PO₄)₃. Journal of Physical Chemistry C, 2017, 121, 3697-3706.	1.5	42
52	Editorial for the JECR special issue on all solid-state batteries. Journal of Electroceramics, 2017, 38, 125-127.	0.8	0
53	Solid Electrolytes: Extremely Fast Charge Carriers in Garnetâ€Type Li₆La₃ZrTaO₁₂ Single Crystals. Annalen Der Physik, 2017, 529, 1700140.	0.9	60
54	Mechanism of Lithium Metal Penetration through Inorganic Solid Electrolytes. Advanced Energy Materials, 2017, 7, 1701003.	10.2	780

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55	Oxygen Vacancies in Fast Lithium-Ion Conducting Garnets. Chemistry of Materials, 2017, 29, 7189-7196.	3.2	63
56	Microelectrodes for local conductivity and degradation measurements on Al stabilized Li7La3Zr2O12 garnets. Journal of Electroceramics, 2017, 38, 176-181.	0.8	18
57	1. Lithium ionâ€“conducting oxide garnets. , 2017, , 3-22.		1
58	Purification of heavy metal loaded wastewater from electroplating industry under synthesis of delafossite (ABO2) by â€œLt-delafossite processâ€• Water Research, 2016, 100, 98-104.	5.3	22
59	Fast Li-Ion-Conducting Garnet-Related Li_{7â€“3x}Fe_xLa₃Zr₂O₁₂ with Uncommon I4ì…3d Structure. Chemistry of Materials, 2016, 28, 5943-5951.	3.2	98
60	A single crystal X-ray and powder neutron diffraction study on NASICON-type Li1+Al Ti2â^'(PO4)3 (0Ââ‰ÂxÂâ‰Â0.5) crystals: Implications on ionic conductivity. Solid State Sciences, 2016, 60, 99-107.	1.5	57
61	Crystal chemistry of "Li7 La3 Zr2 O12" garnet doped with Al, Ga, and Fe: a short review on local structures as revealed by NMR and MÃ¶ÃŸbauer spectroscopy studies. European Journal of Mineralogy, 2016, 28, 619-629.	0.4	24
62	Synthesis, Crystal Structure, and Stability of Cubic Li_{7â€“x}La₃Zr_{2â€“x}Bi_xO₁₂. Inorganic Chemistry, 2016, 55, 12211-12219.	1.9	48
63	Low-temperature synthesis of CuFeO2 (delafossite) at 70 Â°C: A new process solely by precipitation and ageing. Journal of Solid State Chemistry, 2016, 233, 390-396.	1.4	31
64	Crystal Structure of Garnet-Related Li-Ion Conductor Li_{7â€“3x}Ga_xLa₃Zr₂O₁₂: Fast Li-Ion Conduction Caused by a Different Cubic Modification?. Chemistry of Materials, 2016, 28, 1861-1871.	3.2	168
65	Structural and Electrochemical Consequences of Al and Ga Cosubstitution in Li₇La₃Zr₂O₁₂ Solid Electrolytes. Chemistry of Materials, 2016, 28, 2384-2392.	3.2	258
66	A microcontact impedance study on NASICON-type Li_{1+x}Al_xTi_{2â^'x}(PO₄)₃(0 â‰¤ x â‰¤ 0.5) single crystals. Journal of Materials Chemistry A, 2016, 4, 1506-1513.	5.2	97
67	The solubility and site preference of Fe3+ in Li7â^'3Fe La3Zr2O12 garnets. Journal of Solid State Chemistry, 2015, 230, 266-271.	1.4	32
68	Site Occupation of Ga and Al in Stabilized Cubic Li_{7â€“3(x+y)}Ga_xAl_yLa₃Zr₂O₁₂ Garnets As Deduced from ²⁷Al and ⁷¹Ga MAS NMR at Ultrahigh Magnetic Fields. Chemistry of Materials, 2015, 27, 3135-3142.	3.2	65
69	Synthesis, Crystal Chemistry, and Electrochemical Properties of Li_{7â€“2x}La₃Zr_{2â€“x}Mo_xO₁₂ (x = 0.1â€“0.4): Stabilization of the Cubic Garnet Polymorph via Substitution of Zr⁴⁺ by Mo⁶⁺. Inorganic Chemistry, 2015, 54, 10440-10449.	1.9	95
70	Ion Dynamics in Solid Electrolytes: NMR Reveals the Elementary Steps of Li⁺ Hopping in the Garnet Li_{6.5}La₃Zr_{1.75}Mo_{0.25}O₁₂. Chemistry of Materials, 2015, 27, 6571-6582.	3.2	60
71	DFT Study of the Role of Al³⁺ in the Fast Ion-Conductor Li_{7â€“3x}Al³⁺_xLa₃Zr₂O₁₂ Garnet. Chemistry of Materials, 2014, 26, 2617-2623.	3.2	108
72	A Synthesis and Crystal Chemical Study of the Fast Ion Conductor Li_{7â€“3x}Ga_xLa₃ Zr₂O₁₂ with x = 0.08 to 0.84. Inorganic Chemistry, 2014, 53, 6264-6269.	1.9	93

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73	Early diagenetic quartz formation at a deep iron oxidation front in the Eastern Equatorial Pacific â€“ A modern analogue for banded iron/chert formations?. Geochimica Et Cosmochimica Acta, 2014, 137, 188-207.	1.6	20
74	Synthesis and Crystal Chemistry of the Fast Li-Ion Conductor Li₇La₃Zr₂O₁₂ Doped with Fe. Inorganic Chemistry, 2013, 52, 8005-8009.	1.9	71
75	Relativistic effects in triphenylbismuth and their influence on molecular structure and spectroscopic properties. Physical Chemistry Chemical Physics, 2012, 14, 15520.	1.3	35
76	Fast Na Ion Transport Triggered By Rapid Ion Exchange on Local Length Scales. SSRN Electronic Journal, 0, , .	0.4	1