RenÃ© Hausbrand

List of Publications by Year
in descending order

42 papers	1,637 citations	361413 20 h-index	302126 39 g-index
44 all docs	44 docs citations	44 times ranked	2397 citing authors

#	Article	IF	Citations
1	Fundamental degradation mechanisms of layered oxide Li-ion battery cathode materials: Methodology, insights and novel approaches. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 2015, 192, 3-25.	3.5	357
2	Interface reactions between LiPON and lithium studied by in-situ X-ray photoemission. Solid State Ionics, 2015, 273, 51-54.	2.7	205
3	XPS-Surface Analysis of SEI Layers on Li-Ion Cathodes: Part II. SEI-Composition and Formation inside Composite Electrodes. Journal of the Electrochemical Society, 2018, 165, A833-A846.	2.9	124
4	Reaction and Space Charge Layer Formation at the LiCoO₂â€“LiPON Interface: Insights on Defect Formation and Ion Energy Level Alignment by a Combined Surface Scienceâ€“Simulation Approach. Chemistry of Materials, 2017, 29, 7675-7685.	6.7	81
5	XPS-Surface Analysis of SEI Layers on Li-Ion Cathodes: Part I. Investigation of Initial Surface Chemistry. Journal of the Electrochemical Society, 2018, 165, A819-A832.	2.9	81
6	Stabilizing Na₃Zr₂Si₂PO₁₂/Na Interfacial Performance by Introducing a Clean and Na-Deficient Surface. Chemistry of Materials, 2020, 32, 3970-3979.	6.7	72
7	A surface science approach to cathode/electrolyte interfaces in Li-ion batteries: Contact properties, charge transfer and reactions. Progress in Solid State Chemistry, 2014, 42, 175-183.	7.2	52
8	Investigation of sodium insertion into tetracyanoquinodimethane (TCNQ): results for a TCNQ thin film obtained by a surface science approach. Physical Chemistry Chemical Physics, 2016, 18, 3056-3064.	2.8	52
9	Sc-substituted Nasicon solid electrolyte for an all-solid-state NaxCoO2/Nasicon/Na sodium model battery with stable electrochemical performance. Journal of Power Sources, 2019, 409, 86-93.	7.8	50
10	Characterization of the Interfaces in LiFePO₄/PEO-LiTFSI Composite Cathodes and to the Adjacent Layers. Journal of the Electrochemical Society, 2019, 166, A5410-A5420.	2.9	38
11	Adsorption of Diethyl Carbonate on LiCoO₂ Thin Films: Formation of the Electrochemical Interface. Journal of Physical Chemistry C, 2014, 118, 962-967.	3.1	35
12	Interfacial energy level alignment and energy level diagrams for all-solid Li-ion cells: Impact of Li-ion transfer and double layer formation. Solid State Ionics, 2016, 288, 224-228.	2.7	33
13	Experimental Studies on Work Functions of Li⁺ Ions and Electrons in the Battery Electrode Material LiCoO₂: A Thermodynamic Cycle Combining Ionic and Electronic Structure. Advanced Energy Materials, 2018, 8, 1703411.	19.5	28
14	Phosphate structure and lithium environments in lithium phosphorus oxynitride amorphous thin films. Ionics, 2016, 22, 471-481.	2.4	27
15	Performance of Li-Ion Batteries: Contribution of Electronic Factors to the Battery Voltage. Journal of the Electrochemical Society, 2019, 166, A5308-A5312.	2.9	27
16	Photoemission Study on the Interaction Between LiCoO₂ Thin Films and Adsorbed Water. Journal of Physical Chemistry C, 2015, 119, 23407-23412.	3.1	26
17	Evidence of the chemical stability of the garnet-type solid electrolyte Li5La3Ta2O12 towards lithium by a surface science approach. Journal of Power Sources, 2017, 366, 72-79.	7.8	26
18	Understanding the SEI Formation at Pristine Liâ€Ion Cathodes: Chemisorption and Reaction of DEC on LiCoO₂ Surfaces Studied by a Combined SXPS/HREELS Approach. Advanced Materials Interfaces, 2017, 4, 1700567.	3.7	24

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19	In-operando photoelectron spectroscopy for batteries: Set-up using pristine thin film cathode and first results on NaxCoO2. Review of Scientific Instruments, 2018, 89, 073104.	1.3	24
20	Interfaces in solid-state sodium-ion batteries: NaCoO2 thin films on solid electrolyte substrates. Electrochimica Acta, 2018, 268, 226-233.	5.2	23
21	Energy level offsets and space charge layer formation at electrode-electrolyte interfaces: X-ray photoelectron spectroscopy analysis of Li-ion model electrodes. Thin Solid Films, 2017, 643, 43-52.	1.8	22
22	Surface and Interface Analysis of LiCoO₂ and LiPON Thin Films by Photoemission: Implications for Li-Ion Batteries. Zeitschrift Fur Physikalische Chemie, 2015, 229, 1387-1414.	2.8	20
23	XPS study of diethyl carbonate adsorption on LiCoO2 thin films. Solid State Ionics, 2013, 230, 83-85.	2.7	18
24	Surface and bulk properties of Li-ion electrodes â€“ A surface science approach. Journal of Electron Spectroscopy and Related Phenomena, 2017, 221, 65-78.	1.7	18
25	Determination of the valence band structure of an alkali phosphorus oxynitride glass: A synchrotron XPS study on LiPON. Applied Surface Science, 2014, 321, 55-60.	6.1	17
26	Compositional Dependence of Li-Ion Conductivity in Garnet-Rich Composite Electrolytes for All-Solid-State Lithium-Ion Batteriesâ€"Toward Understanding the Drawbacks of Ceramic-Rich Composites. ACS Applied Materials & Interfaces, 2021, 13, 31111-31128.	8.0	17
27	Synthesis and characterization of LiMn1-x Fe x PO4/carbon nanotubes composites as cathodes for Li-ion batteries. Ionics, 2013, 19, 1229-1240.	2.4	16
28	Adsorption of ethylene carbonate on lithium cobalt oxide thin films: A synchrotron-based spectroscopic study of the surface chemistry. Chemical Physics, 2017, 498-499, 19-24.	1.9	16
29	Electrochemical Performance of All-Solid-State Sodium-Ion Model Cells with Crystalline Na_xCoO₂ Thin-Film Cathodes. Journal of the Electrochemical Society, 2019, 166, A5328-A5332.	2.9	16
30	Interface equilibrium modeling of all-solid-state lithium-ion thin film batteries. Journal of Power Sources, 2020, 454, 227892.	7.8	16
31	Impedance Modeling of Solid-State Electrolytes: Influence of the Contacted Space Charge Layer. ACS Applied Materials & Interfaces, 2021, 13, 5895-5906.	8.0	15
32	Temperature induced reduction of the trivalent Ni ions in LiMO2 (M = Ni, Co) thin films. Surface Science, 2013, 608, L1-L4.	1.9	12
33	Interaction of Ultrathin Films of Ethylene Carbonate with Oxidized and Reduced Lithium Cobalt Oxideâ€"A Model Study of the Cathode | Electrolyte Interface in Liâ€Ion Batteries. Advanced Materials Interfaces, 2019, 6, 1801650.	3.7	12
34	Adsorption of Dimethyl Sulfoxide on LiCoO₂ Thin Films: Interface Formation Studied by Photoemission Spectroscopy. Journal of Physical Chemistry C, 2016, 120, 20142-20148.	3.1	10
35	Electronic energy levels at Li-ion cathodeâ€“liquid electrolyte interfaces: Concepts, experimental insights, and perspectives. Journal of Chemical Physics, 2020, 152, 180902.	3.0	7
36	Interface reactivity of in-situ formed LiCoO2 - PEO solid-state interfaces investigated by X-ray photoelectron spectroscopy: Reaction products, energy level offsets and double layer formation. Applied Surface Science, 2022, 571, 151218.	6.1	6

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37	On the use of energy level diagrams for semiconducting ionic electrodes. Physica Status Solidi (A) Applications and Materials Science, 2014, 211, 2049-2051.	1.8	5
38	The effect of calcium impurities of Î²â€³-alumina on the degradation of NaxCoO2 cathodes in all solid state sodium-ion batteries. Solid State Ionics, 2019, 341, 115041.	2.7	5
39	The role of covalent bonding and anionic redox for the performance of sodium cobaltate electrode materials. Energy Storage Materials, 2021, 37, 190-198.	18.0	4
40	Electronic Structure and Reactivity of Cathodeâ€"Liquid Electrolyte Interfaces. SpringerBriefs in Physics, 2020, , 35-54.	0.7	0
41	Electronic Structure and Reactivity of Electrodeâ€"Solid Electrolyte Interfaces. SpringerBriefs in Physics, 2020, , 55-71.	0.7	0
42	Li-Ion Energy Levels, Li-Ion Transfer and Electrode Potential. SpringerBriefs in Physics, 2020, , 83-99.	0.7	0