Hiroki Nara

List of Publications by Year
in descending order

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111 papers	2,369 citations	159585 30 h-index	223800 46 g-index
112 all docs	112 docs citations	112 times ranked	2998 citing authors

#	Article	IF	Citations
1	Proposal of novel equivalent circuit for electrochemical impedance analysis of commercially available lithium ion battery. Journal of Power Sources, 2012, 205, 483-486.	7.8	148
2	Zincâ€“Air Battery: Understanding the Structure and Morphology Changes of Graphene-Supported CoMn₂O₄Bifunctional Catalysts Under Practical Rechargeable Conditions. ACS Applied Materials & Interfaces, 2014, 6, 16545-16555.	8.0	132
3	Reviewâ€”Development of Diagnostic Process for Commercially Available Batteries, Especially Lithium Ion Battery, by Electrochemical Impedance Spectroscopy. Journal of the Electrochemical Society, 2015, 162, A2529-A2537.	2.9	128
4	A Lithium-Ion Sulfur Battery Based on a Carbon-Coated Lithium-Sulfide Cathode and an Electrodeposited Silicon-Based Anode. ACS Applied Materials & Interfaces, 2014, 6, 10924-10928.	8.0	124
5	Highly durable SiOC composite anode prepared by electrodeposition for lithium secondary batteries. Energy and Environmental Science, 2012, 5, 6500.	30.8	103
6	Electrochemical impedance spectroscopy analysis for lithium-ion battery using Li4Ti5O12 anode. Journal of Power Sources, 2013, 222, 442-447.	7.8	92
7	Systematic analysis of interfacial resistance between the cathode layer and the current collector in lithium-ion batteries by electrochemical impedance spectroscopy. Journal of Power Sources, 2019, 409, 139-147.	7.8	74
8	Distinction of impedance responses of Li-ion batteries for individual electrodes using symmetric cells. Electrochimica Acta, 2014, 131, 195-201.	5.2	60
9	Electrochemical Activity of Nitrogenâ€Containing Groups in Organic Electrode Materials and Related Improvement Strategies. Advanced Energy Materials, 2021, 11, 2002523.	19.5	59
10	Electrodeposited novel highly durable SiOC composite anode for Li battery above several thousands of cycles. Electrochemistry Communications, 2011, 13, 969-972.	4.7	55
11	Impedance Analysis with Transmission Line Model for Reaction Distribution in a Pouch Type Lithium-Ion Battery by Using Micro Reference Electrode. Journal of the Electrochemical Society, 2016, 163, A434-A441.	2.9	55
12	Li-Rich Li-Si Alloy As A Lithium-Containing Negative Electrode Material Towards High Energy Lithium-Ion Batteries. Scientific Reports, 2015, 5, 8085.	3.3	53
13	Li2S cathode modified with polyvinylpyrrolidone and mechanical milling with carbon. Journal of Power Sources, 2015, 273, 1136-1141.	7.8	50
14	On-site chemical pre-lithiation of S cathode at room temperature on a 3D nano-structured current collector. Journal of Power Sources, 2017, 366, 65-71.	7.8	50
15	Suppression of polysulfide dissolution by polypyrrole modification of sulfur-based cathodes in lithium secondary batteries. Journal of Power Sources, 2015, 274, 1263-1266.	7.8	49
16	Impedance Analysis of LiNi 1/3 Mn 1/3 Co 1/3 O 2 Cathodes with Different Secondary-particle Size Distribution in Lithium-ion Battery. Electrochimica Acta, 2017, 241, 323-330.	5.2	48
17	Electrochemical Impedance Analysis on Degradation of Commercially Available Lithium Ion Battery during Chargeâ€“Discharge Cycling. Chemistry Letters, 2012, 41, 444-446.	1.3	44
18	Efficient lithium-ion storage using a heterostructured porous carbon framework and its in situ transmission electron microscopy study. Chemical Communications, 2022, 58, 863-866.	4.1	42

#	Article	IF	Citations
19	Cycle and Rate Properties of Mesoporous Tin Anode for Lithium Ion Secondary Batteries. Chemistry Letters, 2008, 37, 142-143.	1.3	40
20	Silicon composite thick film electrodeposited on a nickel micro-nanocones hierarchical structured current collector for lithium batteries. Journal of Power Sources, 2013, 222, 503-509.	7.8	39
21	Structural analysis of highly-durable Si O C composite anode prepared by electrodeposition for lithium secondary batteries. Electrochimica Acta, 2013, 110, 403-410.	5.2	39
22	Application of Electrochemical Impedance Spectroscopy to Ferri/Ferrocyanide Redox Couple and Lithium Ion Battery Systems Using a Square Wave as Signal Input. Electrochimica Acta, 2015, 180, 922-928.	5.2	39
23	New approach for enhancing electrical conductivity of electrodeposited Si-based anode material for Li secondary batteries: Self-incorporation of nano Cu metal in Siâ€“Oâ€“C composite. Nano Energy, 2016, 28, 51-62.	16.0	38
24	Impedance Analysis Counting Reaction Distribution on Degradation of Cathode Catalyst Layer in PEFCs. Journal of the Electrochemical Society, 2011, 158, B1184.	2.9	35
25	New Siâ€“Oâ€“C composite film anode materials for LIB by electrodeposition. Journal of Materials Chemistry A, 2014, 2, 883-896.	10.3	34
26	Electrochemical impedance analysis of electrodeposited Siâ€“Oâ€“C composite thick film on Cu microcones-arrayed current collector for lithium ion battery anode. Journal of Power Sources, 2014, 256, 226-232.	7.8	34
27	The Potential for the Creation of a High Areal Capacity Lithium-Sulfur Battery Using a Metal Foam Current Collector. Journal of the Electrochemical Society, 2017, 164, A5026-A5030.	2.9	34
28	Technology of electrochemical impedance spectroscopy for an energy-sustainable society. Current Opinion in Electrochemistry, 2020, 20, 66-77.	4.8	34
29	Impedance analysis of the effect of flooding in the cathode catalyst layer of the polymer electrolyte fuel cell. Electrochimica Acta, 2013, 113, 720-729.	5.2	33
30	One-Step Hydrothermal Synthesis of SnS2/SnO2/C Hierarchical Heterostructures for Li-ion Batteries Anode with Superior Rate Capabilities. Electrochimica Acta, 2015, 183, 78-84.	5.2	33
31	Liquid Chromatography-Quadruple Time of Flight Mass Spectrometry Analysis of Products in Degraded Lithium-Ion Batteries. Journal of the Electrochemical Society, 2015, 162, A2008-A2015.	2.9	33
32	Impedance Measurements of Kilowatt-Class Lithium Ion Battery Modules/Cubicles in Energy Storage Systems by Square-Current Electrochemical Impedance Spectroscopy. Electrochimica Acta, 2017, 246, 800-811.	5.2	29
33	A pre-lithiation method for sulfur cathode used for future lithium metal free full battery. Journal of Power Sources, 2017, 342, 537-545.	7.8	29
34	Nanoindentation and nanowear study of Sn and Niâ€“Sn coatings. Tribology International, 2009, 42, 779-791.	5.9	26
35	Film Properties of Electropolymerized Polypyrrole for a Sulfur/Ketjenblack Cathode in Lithium Secondary Batteries. Journal of the Electrochemical Society, 2016, 163, A683-A689.	2.9	25
36	Micro-scale Li2Sâ€“C composite preparation from Li2SO4 for cathode of lithium ion battery. Electrochimica Acta, 2015, 183, 70-77.	5.2	24

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37	Single Atomâ€Based Nanoarchitectured Electrodes for Highâ€Performance Lithiumâ€“Sulfur Batteries. Advanced Materials Interfaces, 2021, 8, 2002159.	3.7	22
38	Mechanical analysis andin situstructural and morphological evaluation of Niâ€“Sn alloy anodes for Li ion batteries. Journal Physics D: Applied Physics, 2008, 41, 025302.	2.8	19
39	Effect of the atmosphere on chemical composition and electrochemical properties of solid electrolyte interface on electrodeposited Li metal. Journal of Power Sources, 2011, 196, 6483-6487.	7.8	19
40	Influence of the diffusion-layer thickness during electrodeposition on the synthesis of nano core/shell Snâ€“Oâ€“C composite as an anode of lithium secondary batteries. RSC Advances, 2014, 4, 26872-26880.	3.6	19
41	Hollow carbon architectures with mesoporous shells via self-sacrificial templating strategy using metal-organic frameworks. Chemical Engineering Journal, 2021, 420, 127635.	12.7	19
42	Carbon-coated Li2S Synthesized by Poly(vinylpyrrolidone) and Acetylene Black for Lithium Ion Battery Cathodes. Chemistry Letters, 2014, 43, 901-903.	1.3	18
43	Carbonate-based additive for improvement of cycle durability of electrodeposited Si-O-C composite anode in glyme-based ionic liquid electrolyte for use in lithium secondary batteries. Electrochimica Acta, 2017, 243, 65-71.	5.2	18
44	Tunable Concave Surface Features of Mesoporous Palladium Nanocrystals Prepared from Supramolecular Micellar Templates. ACS Applied Materials & Interfaces, 2020, 12, 51357-51365.	8.0	16
45	Electrodeposited three-dimensional porous Siâ€“Oâ€“C/Ni thick film as high performance anode for lithium-ion batteries. Journal of Power Sources, 2014, 272, 794-799.	7.8	15
46	Electrophoretically deposited carbon nanotube anchor layer to improve areal capacity of Si-O-C composite anode for lithium secondary batteries. Journal of Power Sources, 2016, 336, 203-211.	7.8	15
47	Techniques for realizing practical application of sulfur cathodes in future Li-ion batteries. Journal of Solid State Electrochemistry, 2017, 21, 1925-1937.	2.5	14
48	Synthesis of Stacked Graphene-Sn Composite as a High-Performance Anode for Lithium-Ion Capacitors. Journal of the Electrochemical Society, 2020, 167, 040519.	2.9	14
49	Electrochemical impedance spectroscopy analysis with a symmetric cell for LiCoO₂ cathode degradation correlated with Co dissolution. AIMS Materials Science, 2016, 3, 448-459.	1.4	14
50	Facile fabrication of sulfur/Ketjenblack-PEDOT:PSS composite as a cathode with improved cycling performance for lithium sulfur batteries. Chemical Physics Letters, 2020, 749, 137426.	2.6	13
51	Snâ€“Oâ€“C composite anode for Li secondary battery synthesized byÂan electrodeposition technique using organic carbonate electrolyte. Journal of Power Sources, 2013, 242, 527-532.	7.8	12
52	Feasibility of an Interpenetrated Polymer Network System Made of Di-block Copolymer Composed of Polyethylene Oxide and Polystyrene as the Gel Electrolyte for Lithium Secondary Batteries. Electrochemistry, 2008, 76, 276-281.	1.4	11
53	Application of Sn-Ni Alloy as an Anode for Lithium-Ion Capacitors with Improved Volumetric Energy and Power Density. Journal of the Electrochemical Society, 2019, 166, A3615-A3619.	2.9	11
54	High performance sulfur graphite full cell for next generation sulfur Li-ion battery. Journal of Power Sources, 2018, 388, 5-10.	7.8	10

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55	Analysis of an Electrodeposition Mechanism of Sn-O-C Composite from an Organic Electrolyte. Journal of the Electrochemical Society, 2014, 161, D3025-D3031.	2.9	9
56	Fabrication of powdered Si-O-C composite by electrodeposition harvesting method as a long-cycle-life anode material for lithium-ion batteries. Materials Letters, 2019, 251, 184-187.	2.6	9
57	High-rate and high sulfur-loaded lithium-sulfur batteries with a polypyrrole-coated sulfur cathode on a 3D aluminum foam current collector. Materials Letters, 2021, 285, 129115.	2.6	9
58	New Analysis of Electrochemical Impedance Spectroscopy for Lithium-ion Batteries. Journal of Electrochemical Science and Technology, 2013, 4, 157-162.	2.2	9
59	Effect of electrolyte on cycle performances of the electrodeposited Snâ€“Oâ€“C composite anode of lithium secondary batteries. Journal of Power Sources, 2015, 275, 525-530.	7.8	8
60	Effect of enhanced structural stability of Si-O-C anode by carbon nanotubes for lithium-ion battery. Materials Letters, 2019, 245, 200-203.	2.6	8
61	Effect of fluoroethylene carbonate and vinylene carbonate additives on full-cell optimization of Li-ion capacitors. Electrochemistry Communications, 2021, 122, 106905.	4.7	8
62	New Analysis of Electrochemical Impedance Spectroscopy for Lithium-ion Batteries. Journal of Electrochemical Science and Technology, 2013, 4, 157-162.	2.2	8
63	Development of Areal Capacity of Si-O-C Composites as Anode for Lithium Secondary Batteries Using 3D-Structured Carbon Paper as a Current Collector. Journal of the Electrochemical Society, 2017, 164, A355-A359.	2.9	7
64	In-situ lithiation through an â€˜injectionâ€™ strategy in the pouch type sulfur-graphite battery system. Journal of Power Sources, 2019, 430, 228-232.	7.8	6
65	Polypyrrole Modification of High Sulfur-Loaded Three-Dimensional Aluminum Foam Cathode in Lithiumâ€“Sulfur Batteries for High-Rate Capability. Journal of the Electrochemical Society, 2021, 168, 040517.	2.9	6
66	AlCl₃-graphite intercalation compounds as negative electrode materials for lithium-ion capacitors. Journal of Materials Chemistry A, 2021, 9, 27459-27467.	10.3	6
67	Potentiostatic way to fabricate Li2Sx cathode with suppressed polysulfide formation. Journal of Power Sources, 2018, 399, 287-293.	7.8	5
68	Tin addition for mechanical and electronic improvement of electrodeposited Siâ€“Oâ€“C composite anode for lithium-ion battery. Journal of Power Sources, 2019, 437, 226858.	7.8	5
69	Characteristics of Interpenetrated Polymer Network System made of Polyethylene Oxide-LiBF₄ Complex and Polystyrene as the Electrolyte for Lithium Secondary Battery. Electrochemistry, 2003, 71, 1182-1186.	1.4	4
70	Synthesis of Lithium Sulfide (Li₂S) Wrapped Carbon Nano Composite for Binder-Free Li₂S Cathode. Journal of the Electrochemical Society, 2020, 167, 020531.	2.9	4
71	(Invited) Lithium Batteries and Its Diagnosis System. ECS Meeting Abstracts, 2016, , .	0.0	4
72	Effect of Mass Balancing on Cell Performance and Electrochemical Investigation of Snâ€“Ni Alloy as Anode for Li-Ion Capacitors. Journal of the Electrochemical Society, 2020, 167, 130512.	2.9	3

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73	Structural analysis of highly-durable SiOC composite anode prepared by electrodeposition for lithium secondary batteries. Electrochimica Acta, 2013, 107, 1-8.	5.2	2
74	Influence of Li-salts on Cycle Durability of Sn-Ni Alloy Anode for Lithium-ion Capacitor. Electrochemistry, 2020, 88, 74-78.	1.4	2
75	Impedance Analysis of Anode and Cathode Separated by Using Micro Reference Electrode on Li-ion Battery. ECS Meeting Abstracts, 2012, , .	0.0	2
76	Numerical Simulation of DMFC-Capacitor Hybrid Power Supply System for Small Electronic Devices. Electrochemistry, 2008, 76, 270-275.	1.4	1
77	Liquid Chromatography-Quadruple Time of Flight Mass Spectrometry (LC-QToF/MS) for Deterioration Analysis of Lithium-ion Battery during Storage. Electrochemistry, 2017, 85, 721-727.	1.4	1
78	Structural analysis of highly durable SiOC composite anode prepared by electrodeposition for lithium secondary batteries. Electrochimica Acta, 2013, 110, 402.	5.2	0
79	Effect of Electrolyte Additive on Cycle Performance of Electrodeposited Si-O-C Composite Anode for Lithium Secondary Battery. ECS Meeting Abstracts, 2013, , .	0.0	0
80	Structural Analysis of Highly Durable Si-O-C Or Sn-O-C Composite Anodes for Lithium Secondary Battery By Means of Electrodeposition. ECS Meeting Abstracts, 2013, , .	0.0	0
81	Scale-up Efforts. , 2021, , 415-422.		0
82	Silicon, Electrochemical Deposition. , 2014, , 1966-1970.		0
83	(Keynote) Non-Destructive Analysis of Electrochemical Systems By Electrochemical Impedance Spectroscopy. ECS Meeting Abstracts, 2016, , .	0.0	0
84	Development on High Energy Laminated Type Li Secondary Batteries Using Si-O-C Composite Anode and S/KB Composite Cathode with Glyme-Li Salt Solvate Ionic Liquid. ECS Meeting Abstracts, 2016, , .	0.0	0
85	Suppression of Polysulfide Transfer by Polypyrrole Modification on Cathode in Lithium-Sulfur Battery. ECS Meeting Abstracts, 2016, , .	0.0	0
86	Evaluation of HEV Batteries for Recycle ~Investigation for Estimating Battery Capacity By Electrochemical Impedance Spectroscopy~. ECS Meeting Abstracts, 2016, , .	0.0	0
87	Evaluation of HEV Batteries for Recycle~Investigation for Practical Use of the Low Capacity Retention Sorting Technology By Electrochemical Impedance Spectroscopy~. ECS Meeting Abstracts, 2016, , .	0.0	0
88	Introduction of Square-Current Electrochemical Impedance Spectroscopy (SC-EIS) to Battery Assessment System of Kw-Class Lithium Ion Battery System. ECS Meeting Abstracts, 2016, , .	0.0	0
89	(Invited) Analysis of Li-Ion Battery By EIS Response By Equivalent Circuit and Verification of Estimated Parameters. ECS Meeting Abstracts, 2016, , .	0.0	0
90	Development of Community Energy Management System (CEMS) to Introduce Next Generation Secondary-Batteries into Market. ECS Meeting Abstracts, 2016, , .	0.0	0

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91	(Invited) Impedance Analysis Using Equivalent Circuits with Transmission Line Model for Reaction Distribution in Polymer Electrolyte Fuel Cell and Li-Ion Battery. ECS Meeting Abstracts, 2016, , .	0.0	0
92	EIS Analysis of Commercial Lithium-Ion Battery on Accelerated Degradation for Long-Term Charge-Discharge Cycling. ECS Meeting Abstracts, 2016, , .	0.0	0
93	Si-O-C Composites Prepared By Electrodeposition on CNTs/Cu or Carbon Paper Substrate and Electrochemical Performance for Lithium Ion Battery. ECS Meeting Abstracts, 2016, , .	0.0	0
94	EIS and Structual Analysis of LiCoO2 Cathode Degradation Behavior in Libs at Initial Stage of Charge-Discharge Cycles. ECS Meeting Abstracts, 2016, , .	0.0	0
95	Preparation of Pre-Lithiated Sulfur Cathode By an in Situ Contacting Reaction. ECS Meeting Abstracts, 2016, , .	0.0	0
96	Effect of Electrode Pressing Process on the Electrode Characteristics of LiCoO2 Cathode.. ECS Meeting Abstracts, 2016, , .	0.0	0
97	High-Energy Laminated-Type Li-S Batteries Using High-Sulfur Loading Positive Electrode on Aluminum Foam. ECS Meeting Abstracts, 2016, , .	0.0	0
98	Estimation Technology of Residual Life of HEV Batteries Using Electrochemical Impedance Spectroscopy. ECS Meeting Abstracts, 2016, , .	0.0	0
99	Fabrication of the Sulfur Lithium Ion Secondary Battery with Different Li Ion Source. ECS Meeting Abstracts, 2017, , .	0.0	0
100	(Invited) Equivalent Circuit Modeling for EIS on Structured Electrode in LIB. ECS Meeting Abstracts, 2019, , .	0.0	0
101	Electrochemical Impedance Spectroscopy with Discrete Transmission Line Model and Electric Circuit Simulation for Current Distribution in Electrode of All Solidâ€“State Battery. ECS Meeting Abstracts, 2021, MA2021-02, 258-258.	0.0	0
102	300Wh/Kg Class High-Energy Li-S Laminated Batteries Using High-Sulfur Loading Cathode on 3D Mesh Structured Aluminum Foam. ECS Meeting Abstracts, 2020, MA2020-02, 436-436.	0.0	0
103	Dependence of Impedance Response of Li-S Battery on Polysulfide Solubility of Electrolyte II - Mid - End Stage of Discharge. ECS Meeting Abstracts, 2020, MA2020-02, 393-393.	0.0	0
104	Snâ€“Ni Alloy Anode Pre-Doped in Vinylene Carbonate Containing Electrolyte for Lithium-Ion Capacitor. ECS Meeting Abstracts, 2020, MA2020-02, 639-639.	0.0	0
105	Dependence of Impedance Response of Li-S Battery on Polysulfide Solubility of Electrolyte I - Initial Stage of Discharge. ECS Meeting Abstracts, 2020, MA2020-02, 392-392.	0.0	0
106	Preparation of Artificial SEI Containing LiN_xO_y on Lithium Metal Anode By Solid-Gas Interface Reaction for Sulfolane Electrolyte. ECS Meeting Abstracts, 2020, MA2020-02, 396-396.	0.0	0
107	The Full-Cell Design of a Li-Ion Capacitor Using a Sn-Ni Alloy As an Anode. ECS Meeting Abstracts, 2020, MA2020-02, 583-583.	0.0	0
108	Addition of Carbon Nanodots for Improving Charge/Discharge Characteristics of Lithium Metal Anode. ECS Meeting Abstracts, 2020, MA2020-02, 711-711.	0.0	0

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109	Laminated Cell Properties of Lithium Sulfur Battery Using Polypyrrole Modified High Sulfur Loading Cathode with Comparing Al Foil and 3D Foam Current Collectors. ECS Meeting Abstracts, 2020, MA2020-02, 284-284.	0.0	0
110	Identification of Soluble Degradation Products in Lithiumâ€“Sulfur and Lithium-Metal Sulfide Batteries. Separations, 2022, 9, 57.	2.4	0
111	Synthesis of AlCl₃-Graphite Intercalation Compounds for Lithium-Ion Capacitor Anode. ECS Meeting Abstracts, 2020, MA2020-02, 574-574.	0.0	0