Hirohisa Tanaka

List of Publications by Year
in descending order

110 papers	6,132 citations	126907 33 h-index	71685 76 g-index
119 all docs	119 docs citations	119 times ranked	5643 citing authors

#	Article	IF	Citations
1	Pyroelectric power generation in PLZST material by temperature dependent phase transformation. Ceramics International, 2022, 48, 8689-8695.	4.8	6
2	<i>Operando</i> structure observation of pyroelectric ceramics during power generation cycle. Journal of Applied Physics, 2022, 131, .	2.5	1
3	Examination of pyroelectric power generation over a wide temperature range by controlling the Zr:Sn composition ratio of PLZST. Journal of Asian Ceramic Societies, 2022, 10, 99-107.	2.3	2
4	Performance tests of catalysts for the safe conversion of hydrogen inside the nuclear waste containers in Fukushima Daiichi. International Journal of Hydrogen Energy, 2021, 46, 12511-12521.	7.1	6
5	Synthesis and Characterization of 4â€Vinylimidazolium/Styreneâ€Cografted Anionâ€Conducting Electrolyte Membranes. Macromolecular Chemistry and Physics, 2021, 222, 2100028.	2.2	2
6	Pyroelectric power generation from the waste heat of automotive exhaust gas. Sustainable Energy and Fuels, 2020, 4, 1143-1149.	4.9	16
7	A long side chain imidazolium-based graft-type anion-exchange membrane: novel electrolyte and alkaline-durable properties and structural elucidation using SANS contrast variation. Soft Matter, 2020, 16, 8128-8143.	2.7	13
8	Predicting performance of thermal-electrical cycles in pyroelectric power generation. Japanese Journal of Applied Physics, 2020, 59, 094501.	1.5	4
9	Electrochemical Adsorption on Pt Nanoparticles in Alkaline Solution Observed Using In Situ High Energy Resolution X-ray Absorption Spectroscopy. Nanomaterials, 2019, 9, 642.	4.1	7
10	Imidazolium-Based Anion Exchange Membranes for Alkaline Anion Fuel Cells: Interplay between Morphology and Anion Transport Behavior. Journal of the Electrochemical Society, 2019, 166, F472-F478.	2.9	9
11	Alkaline durable 2-methylimidazolium containing anion-conducting electrolyte membranes synthesized by radiation-induced grafting for direct hydrazine hydrate fuel cells. Journal of Membrane Science, 2019, 573, 403-410.	8.2	22
12	Basicityâ€dependent properties of anion conducting membranes consisting of iminium cations for alkaline fuel cells. Journal of Polymer Science Part A, 2019, 57, 503-510.	2.3	6
13	Small angle neutron scattering study on the morphology of imidazolium-based grafted anion-conducting fuel cell membranes. Physica B: Condensed Matter, 2018, 551, 203-207.	2.7	6
14	Highly durable direct hydrazine hydrate anion exchange membrane fuel cell. Journal of Power Sources, 2018, 375, 291-299.	7.8	26
15	Plasma generation in aqueous solution containing volatile solutes. Japanese Journal of Applied Physics, 2018, 57, 0102B7.	1.5	5
16	Structure of Active Sites of Fe-N-C Nano-Catalysts for Alkaline Exchange Membrane Fuel Cells. Nanomaterials, 2018, 8, 965.	4.1	13
17	Electrical and Crystallographic Study of an Electrothermodynamic Cycle for a Waste Heat Recovery. Advanced Sustainable Systems, 2018, 2, 1800067.	5.3	7
18	Imidazolium-Based Grafted Anion Exchange Membranes: Interplay between the Morphology and Anion Transport Behavior. ECS Transactions, 2018, 86, 619-627.	0.5	1

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19	Reverse relationships of water uptake and alkaline durability with hydrophilicity of imidazolium-based grafted anion-exchange membranes. Soft Matter, 2018, 14, 9118-9131.	2.7	12
20	Temperature stability of PIN-PMN-PT ternary ceramics during pyroelectric power generation. Journal of Alloys and Compounds, 2018, 768, 22-27.	5.5	17
21	NiO/Nb₂O₅/C Hydrazine Electrooxidation Catalysts for Anion Exchange Membrane Fuel Cells. Journal of the Electrochemical Society, 2017, 164, F229-F234.	2.9	13
22	Relationship Between the Material Properties and Pyroelectricâ€Generating Performance of PZTs. Advanced Sustainable Systems, 2017, 1, 1600020.	5.3	10
23	Imidazolium-based anion exchange membranes for alkaline anion fuel cells: (2) elucidation of the ionic structure and its impact on conducting properties. Soft Matter, 2017, 13, 8463-8473.	2.7	16
24	Study of Catalytic Reaction at Electrodeâ€“Electrolyte Interfaces by a CV-XAFS Method. Journal of Electronic Materials, 2017, 46, 3634-3638.	2.2	4
25	Pyroelectric power generation with ferroelectrics (1-x)PMN-xPT. Ferroelectrics, 2017, 512, 92-99.	0.6	14
26	Alkaline Durable Anion-Conducting Electrolyte Membranes Prepared by Radiation Induced Grafting of 2-Methyl-4-vinylimidazole for Non-Platinum Direct Hydrazine Hydrate Fuel Cells. ECS Transactions, 2017, 80, 979-987.	0.5	4
27	In situ X-ray absorption spectroscopy study on water formation reaction of palladium metal nanoparticle catalysts. International Journal of Hydrogen Energy, 2017, 42, 7749-7754.	7.1	8
28	Mechanism Study of Hydrazine Electrooxidation Reaction on Nickel Oxide Surface in Alkaline Electrolyte by In Situ XAFS. Journal of the Electrochemical Society, 2016, 163, H951-H957.	2.9	34
29	Highly active and selective nickel molybdenum catalysts for direct hydrazine fuel cell. Electrochimica Acta, 2016, 215, 420-426.	5.2	59
30	Synthesis and Structure of a Water-soluble Âµ-Î·¹:Î·¹-N₂ Dinuclear Ru^{II} Complex with a Polyamine Ligand. Chemistry Letters, 2016, 45, 149-151.	1.3	4
31	Inorganic clusters with a [Fe₂MoOS₃] coreâ€"a functional model for acetylene reduction by nitrogenases. Dalton Transactions, 2016, 45, 14620-14627.	3.3	4
32	Imidazolium-based anion exchange membranes for alkaline anion fuel cells: elucidation of the morphology and the interplay between the morphology and properties. Soft Matter, 2016, 12, 1567-1578.	2.7	26
33	A theoretical study of how C2-substitution affects alkaline stability in imidazolium-based anion exchange membranes. Solid State Ionics, 2015, 278, 5-10.	2.7	15
34	Toward Optimizing the Performance of Self-Regenerating Pt-Based Perovskite Catalysts. ACS Catalysis, 2015, 5, 1112-1118.	11.2	20
35	Novel Electrothermodynamic Power Generation. Advanced Energy Materials, 2015, 5, 1401942.	19.5	17
36	Operando XAFS study of carbon supported Ni, NiZn, and Co catalysts for hydrazine electrooxidation for use in anion exchange membrane fuel cells. Electrochimica Acta, 2015, 163, 116-122.	5.2	61

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37	Fe Phthalocyanine-Based Catalyst for the Electro-Oxidation of<i>N,N-</i>Diaminourea and Hydrazine and Its Application in an Anion-Exchange Membrane Fuel Cell. Journal of the Electrochemical Society, 2015, 162, F60-F64.	2.9	7
38	Ni-La Electrocatalysts for Direct Hydrazine Alkaline Anion-Exchange Membrane Fuel Cells. Journal of the Electrochemical Society, 2014, 161, H3106-H3112.	2.9	12
39	Hydrazine Sensor for Quantitative Determination of High Hydrazine Concentrations for Direct Hydrazine Fuel Cell Vehicle Applications. Journal of the Electrochemical Society, 2014, 161, H79-H85.	2.9	9
40	Combinatorial discovery of Ni-based binary and ternary catalysts for hydrazine electrooxidation for use in anion exchange membrane fuel cells. Journal of Power Sources, 2014, 247, 605-611.	7.8	85
41	In Situ XAFS and HAXPES Analysis and Theoretical Study of Cobalt Polypyrrole Incorporated on Carbon (CoPPyC) Oxygen Reduction Reaction Catalysts for Anion-Exchange Membrane Fuel Cells. Journal of Physical Chemistry C, 2014, 118, 25480-25486.	3.1	18
42	Anode Catalysts for Direct Hydrazine Fuel Cells: From Laboratory Test to an Electric Vehicle. Angewandte Chemie - International Edition, 2014, 53, 10336-10339.	13.8	142
43	In-situ visualization of N2 evolution in operating direct hydrazine hydrate fuel cell by soft X-ray radiography. Journal of Power Sources, 2014, 252, 35-42.	7.8	15
44	Imidazolium Cation Based Anion-Conducting Electrolyte Membranes Prepared by Radiation Induced Grafting for Direct Hydrazine Hydrate Fuel Cells. Journal of the Electrochemical Society, 2014, 161, F889-F893.	2.9	21
45	Mg0.7Cu0.3Al2O4 Spinel-type Catalyst Active for CO Oxidation under Practical Conditions. Chemistry Letters, 2014, 43, 363-365.	1.3	6
46	Electrooxidation of hydrazine hydrate using Niâ€“La catalyst for anion exchange membrane fuel cells. Journal of Power Sources, 2013, 234, 252-259.	7.8	72
47	Alkaline Durable Anion Exchange Membranes Based on Graft-Type Fluoropolymer Films for Hydrazine Hydrate Fuel Cell. ECS Transactions, 2013, 50, 2075-2081.	0.5	7
48	Counterâ€Anion Effect on the Properties of Anionâ€Conducting Polymer Electrolyte Membranes Prepared by Radiationâ€Induced Graft Polymerization. Macromolecular Chemistry and Physics, 2013, 214, 1756-1762.	2.2	16
49	Controllable electrochemical generation of H2 from hydrazine together with slight power generation using a membraneless cell. Electrochimica Acta, 2013, 94, 38-41.	5.2	5
50	Development of Advanced Electrocatalyst for Automotive Polymer Electrolyte Fuel Cells. ECS Transactions, 2013, 58, 49-56.	0.5	0
51	Comparative Study on the Catalytic Activity of the TMâ€“N₂ Active Sites (TM = Mn, Fe, Co, Ni) in the Oxygen Reduction Reaction: Density Functional Theory Study. Journal of the Physical Society of Japan, 2013, 82, 114704.	1.6	22
52	Elements Science and Technology Project: Design of Precious Metal Free Catalyst for NO Dissociation. Journal of the Japan Petroleum Institute, 2013, 56, 357-365.	0.6	4
53	Development of Anion Exchange Membranes for A Liquid Fuel Cell. Membrane, 2013, 38, 126-130.	0.0	0
54	NO dissociation on Cu(111) and Cu₂O(111) surfaces: a density functional theory based study. Journal of Physics Condensed Matter, 2012, 24, 175005.	1.8	33

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55	Synthesis and Properties of Niâ€“Cu Alloy Supported on Mgâ€“Al Mixed Oxide Catalyst for Automotive Exhaust. Chemistry Letters, 2012, 41, 822-824.	1.3	15
56	Aerosol-derived Ni1âˆ’xZnx electrocatalysts for direct hydrazine fuel cells. Physical Chemistry Chemical Physics, 2012, 14, 5512.	2.8	81
57	Electrochemical oxidation of hydrazine derivatives by carbon-supported metalloporphyrins. Journal of Power Sources, 2012, 204, 79-84.	7.8	44
58	Noble Metal-Free Hydrazine Fuel Cell Catalysts: EPOC Effect in Competing Chemical and Electrochemical Reaction Pathways. Journal of the American Chemical Society, 2011, 133, 5425-5431.	13.7	294
59	Anion Conductive Block Poly(arylene ether)s: Synthesis, Properties, and Application in Alkaline Fuel Cells. Journal of the American Chemical Society, 2011, 133, 10646-10654.	13.7	488
60	Study of Pt-free anode catalysts for anion exchange membrane fuel cells. Catalysis Today, 2011, 164, 181-185.	4.4	49
61	Non-Pt Cathode Catalysts for Alkaline Membrane Fuel Cells. ECS Meeting Abstracts, 2010, , .	0.0	0
62	Bimetallic Ni Alloys for the Electrooxidation of Hydrazine in Alkaline Media. ECS Transactions, 2010, 33, 1673-1680.	0.5	9
63	Dynamic structural change in Pd-perovskite automotive catalyst studied by time-resolved dispersive x-ray absorption fine structure. Journal of Applied Physics, 2010, 107, .	2.5	24
64	XAFS Analysis of Unpyrolyzed CoPPyC Oxygen Reduction Catalysts for Anion-Exchange Membrane Fuel Cells (AMFC). ECS Transactions, 2010, 33, 1751-1755.	0.5	2
65	Anion-Exchange Membrane Fuel Cells: Dual-Site Mechanism of Oxygen Reduction Reaction in Alkaline Media on Cobaltâˆ’Polypyrrole Electrocatalysts. Journal of Physical Chemistry C, 2010, 114, 5049-5059.	3.1	255
66	Study of Anode Catalysts and Fuel Concentration on Direct Hydrazine Alkaline Anion-Exchange Membrane Fuel Cells. Journal of the Electrochemical Society, 2009, 156, B509.	2.9	107
67	Electrochemical oxidation of hydrazine and its derivatives on the surface of metal electrodes in alkaline media. Journal of Power Sources, 2009, 191, 362-365.	7.8	98
68	Dynamic structural change of Pd particles on LaFeO₃under redox atmosphere and CO/NO catalytic reaction studied by dispersive XAFS. Journal of Physics: Conference Series, 2009, 190, 012154.	0.4	14
69	Time evolution of palladium structure change with redox fluctuations in a LaFePdO3 perovskite automotive catalyst by high-speed analysis with in situ DXAFS. Catalysis Communications, 2008, 9, 311-314.	3.3	34
70	Improvement of the Oxygen-Storage Capacity of an Intelligent Catalyst. , 2008, , .		1
71	Platinum-free Anionic Fuel Cells for Automotive Applications. ECS Transactions, 2008, 16, 459-464.	0.5	6
72	Innovative Approach of PM Removal System for a Light-Duty Diesel Vehicle using Non-Thermal Plasma. , 2007, , .		2

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73	A Platinumâ€Free Zeroâ€Carbonâ€Emission Easy Fuelling Direct Hydrazine Fuel Cell for Vehicles. Angewandte Chemie - International Edition, 2007, 46, 8024-8027.	13.8	292
74	The self-regenerative Pd-, Rh-, and Pt-perovskite catalysts. Topics in Catalysis, 2007, 42-43, 367-371.	2.8	40
75	Intelligent catalysts with self-regenerative function. AutoTechnology, 2007, 7, 44-47.	0.1	3
76	LaFePdO3 perovskite automotive catalyst having a self-regenerative function. Journal of Alloys and Compounds, 2006, 408-412, 1071-1077.	5.5	51
77	The intelligent catalyst having the self-regenerative function of Pd, Rh and Pt for automotive emissions control. Catalysis Today, 2006, 117, 321-328.	4.4	208
78	Self-Regenerating Rh- and Pt-Based Perovskite Catalysts for Automotive-Emissions Control. Angewandte Chemie - International Edition, 2006, 45, 5998-6002.	13.8	198
79	The Self-Regenerative "Intelligent" Catalyst for Automotive Emissions Control. Key Engineering Materials, 2006, 317-318, 833-836.	0.4	8
80	The Intelligent Catalyst: Pd-Perovskite Having the Self-Regenerative Function in a Wide Temperature Range. Key Engineering Materials, 2006, 317-318, 827-832.	0.4	5
81	Structural Stability of Pd-Perovskite Catalysts after Heat Treatment Under Redox Condition. Journal of the Ceramic Society of Japan, 2005, 113, 71-76.	1.3	25
82	The reducing capability of palladium segregated from perovskite-type LaFePdOx automotive catalysts. Applied Catalysis A: General, 2005, 296, 114-119.	4.3	39
83	Redox behavior of palladium at start-up in the Perovskite-type LaFePdOx automotive catalysts showing a self-regenerative function. Applied Catalysis B: Environmental, 2005, 57, 267-273.	20.2	131
84	Heterogeneous or Homogeneous? A Case Study Involving Palladium-Containing Perovskites in the Suzuki Reaction. Advanced Synthesis and Catalysis, 2005, 347, 647-654.	4.3	129
85	Self-regeneration of palladium-perovskite catalysts in modern automobiles. Journal of Physics and Chemistry of Solids, 2005, 66, 274-282.	4.0	66
86	An Intelligent Catalyst: The Self-Regenerative Palladiumâ€"Perovskite Catalyst for Automotive Emissions Control. Catalysis Surveys From Asia, 2005, 9, 63-74.	2.6	50
87	Copper- and Palladium-Containing Perovskites: Catalysts for the Ullmann and Sonogashira Reactions. Synlett, 2005, 2005, 1291-1295.	1.8	11
88	Design of the Intelligent Catalyst for Japan ULEV Standard. Topics in Catalysis, 2004, 30/31, 389-396.	2.8	49
89	Potential application of anion-exchange membrane for hydrazine fuel cell electrolyte. Electrochemistry Communications, 2003, 5, 892-896.	4.7	245
90	Effect of anode electrocatalyst for direct hydrazine fuel cell using proton exchange membrane. Journal of Power Sources, 2003, 122, 132-137.	7.8	102

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91	Catalytic activity and structural stability of La0.9Ce0.1Co1â^'xFexO3 perovskite catalysts for automotive emissions control. Applied Catalysis A: General, 2003, 244, 371-382.	4.3	67
92	Investigation of PEM type direct hydrazine fuel cell. Journal of Power Sources, 2003, 115, 236-242.	7.8	137
93	Research on the Co-free Intelligent Catalyst. , 2003, , .		5
94	New Method of Measuring the Amount of Oxygen Storage/Release on Millisecond Time Scale on Planar Catalyst. Journal of Catalysis, 2002, 211, 157-164.	6.2	25
95	Regeneration of Precious Metals in Various Designed Intelligent Perovskite Catalysts. , 2002, , .		4
96	A Hexa-Aluminate Automotive Three-Way Catalyst. , 2002, , .		1
97	Self-regeneration of a Pd-perovskite catalyst for automotive emissions control. Nature, 2002, 418, 164-167.	27.8	1,016
98	Advances in designing perovskite catalysts. Current Opinion in Solid State and Materials Science, 2001, 5, 381-387.	11.5	403
99	An Intelligent Catalyst. , 2001, , .		10
100	Title is missing!. Topics in Catalysis, 2001, 16/17, 63-70.	2.8	57
101	Influence of Oxygen Storage Characteristics on Automobile Emissions. , 1999, , .		5
102	Durability of Three-Way Catalysts with Precious Metals Loaded on Different Location. , 1996, , .		3
103	Perovskite-Pd Three-Way Catalysts for Automotive Applications. , 0, , .		20
104	Excellent Oxygen Storage Capacity of Perovskite-PD Three way Catalysts. , 0, , .		37
105	Improvement in Oxygen Storage Capacity. , 0, , .		17
106	Oxygen Storage Capacity on Cerium Oxide - Precious Metal System. , 0, , .		13
107	Influence of Support Materials on Durability of Palladium in Three-Way Catalyst. , 0, , .		9
108	Design of a Practical Intelligent Catalyst. , 0, , .		5

#	Article	IF	Citations
109	Thermal Properties of the Intelligent Catalyst. , 0, , .		8
110	Development of a Rh-Intelligent Catalyst. , 0, , .		4