Gen Inoue

List of Publications by Year in descending order

101 papers	1,285 citations	394421 19 h-index	377865 34 g-index
103 all docs	103 docs citations	103 times ranked	1113 citing authors

#	Article	IF	Citations
1	Reversible Absorption of CO₂ Triggered by Phase Transition of Amine-Containing Micro- and Nanogel Particles. Journal of the American Chemical Society, 2012, 134, 18177-18180.	13.7	129
2	Theoretical examination of effective oxygen diffusion coefficient and electrical conductivity of polymer electrolyte fuel cell porous components. Journal of Power Sources, 2016, 327, 610-621.	7.8	97
3	Numerical and experimental evaluation of the relationship between porous electrode structure and effective conductivity of ions and electrons in lithium-ion batteries. Journal of Power Sources, 2017, 342, 476-488.	7.8	97
4	Effect of porous structure of catalyst layer on effective oxygen diffusion coefficient in polymer electrolyte fuel cell. Journal of Power Sources, 2016, 327, 1-10.	7.8	93
5	Development of simulated gas diffusion layer of polymer electrolyte fuel cells and evaluation of its structure. Journal of Power Sources, 2008, 175, 145-158.	7.8	89
6	Effects of Pt and ionomer ratios on the structure of catalyst layer: A theoretical model for polymer electrolyte fuel cells. Journal of Power Sources, 2018, 374, 196-204.	7.8	60
7	Effect of gas channel depth on current density distribution of polymer electrolyte fuel cell by numerical analysis including gas flow through gas diffusion layer. Journal of Power Sources, 2006, 157, 136-152.	7.8	52
8	The effect of solvent and ionomer on agglomeration in fuel cell catalyst inks: Simulation by the Discrete Element Method. International Journal of Hydrogen Energy, 2019, 44, 28984-28995.	7.1	43
9	Simulation of carbon black aggregate and evaluation of ionomer structure on carbon in catalyst layer of polymer electrolyte fuel cell. Journal of Power Sources, 2019, 439, 227060.	7.8	41
10	Understanding formation mechanism of heterogeneous porous structure of catalyst layer in polymer electrolyte fuel cell. International Journal of Hydrogen Energy, 2016, 41, 21352-21365.	7.1	40
11	Development of novel three-dimensional reconstruction method for porous media for polymer electrolyte fuel cells using focused ion beam-scanning electron microscope tomography. Journal of Power Sources, 2017, 347, 108-113.	7.8	40
12	Evaluation of the thickness of membrane and gas diffusion layer with simplified two-dimensional reaction and flow analysis of polymer electrolyte fuel cell. Journal of Power Sources, 2006, 154, 8-17.	7.8	26
13	Improvement of cell performance in catalyst layers with silica-coated Pt/carbon catalysts for polymer electrolyte fuel cells. International Journal of Hydrogen Energy, 2020, 45, 1867-1877.	7.1	23
14	Electrochemical reaction engineering of polymer electrolyte fuel cell. AICHE Journal, 2017, 63, 249-256.	3.6	22
15	Numerical analysis of relative humidity distribution in polymer electrolyte fuel cell stack including cooling water. Journal of Power Sources, 2006, 162, 81-93.	7.8	21
16	Effect of flow pattern of gas and cooling water on relative humidity distribution in polymer electrolyte fuel cell. Journal of Power Sources, 2006, 162, 94-104.	7.8	21
17	Evaluation of the optimal separator shape with reaction and flow analysis of polymer electrolyte fuel cell. Journal of Power Sources, 2006, 154, 18-34.	7.8	20
18	Examination of optimal separator shape of polymer electrolyte fuel cell with numerical analysis including the effect of gas flow through gas diffusion layer. Journal of Power Sources, 2006, 157, 153-165.	7.8	19

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19	Honeycomb-carbon-fiber-supported amine-containing nanogel particles for CO2 capture using a rotating column TVSA. Chemical Engineering Journal, 2020, 383, 123123.	12.7	19
20	Effect of mold pressure on compaction and ion conductivity of all-solid-state batteries revealed by the discrete element method. Journal of Power Sources, 2021, 508, 230344.	7.8	19
21	Understanding Mechanism of PTFE Distribution in Fibrous Porous Media. ECS Transactions, 2013, 50, 461-468.	0.5	17
22	A discrete particle packing model for the formation of a catalyst layer in polymer electrolyte fuel cells. International Journal of Hydrogen Energy, 2019, 44, 32170-32183.	7.1	17
23	A Particle Based Ionomer Attachment Model for a Fuel Cell Catalyst Layer. Journal of the Electrochemical Society, 2020, 167, 013544.	2.9	17
24	Simulation of CO2 Recovery System from Flue Gas by Honeycomb Type Adsorbent: II (Optimization of) Tj ETQq0 0 0 rgBT /Overlock 10 T	0.5	17
25	Evaluation of Gas Diffusion Performance in Wet GDL with 3D Pore Network Model. ECS Transactions, 2009, 25, 1519-1527.	0.5	14
26	Amine-containing nanogel particles supported on porous carriers for enhanced carbon dioxide capture. Applied Energy, 2019, 253, 113567.	10.1	14
27	Gas Hydrate Decomposition Rate in Flowing Water. Journal of Energy Resources Technology, Transactions of the ASME, 2007, 129, 102-106.	2.3	13
28	Simulation of Fabrication and Degradation of All-Solid-State Batteries with Ductile Particles. Journal of the Electrochemical Society, 2021, 168, 030538.	2.9	13
29	Effect of a polybenzimidazole coating on carbon supports for ionomer content optimization in polymer electrolyte membrane fuel cells. Journal of Power Sources, 2021, 496, 229855.	7.8	13
30	Study on CO2 Recovery System from Flue Gas by Honeycomb Type Adsorbent: I (Results of Tests and) Tj ETQq0 0 0 rgBT /Overlock 10 T	0.5	13
31	Polyamine nanogel particles spray-coated on carbon paper for efficient CO2 capture in a milli-channel reactor. Chemical Engineering Journal, 2020, 401, 126059.	12.7	11
32	Investigation on Effect of PTFE Treatment on GDL Micro-structure by High-resolution X-ray CT. ECS Transactions, 2013, 50, 735-744.	0.5	8
33	Sample-efficient parameter exploration of the powder film drying process using experiment-based Bayesian optimization. Scientific Reports, 2022, 12, 1615.	3.3	7
34	Ionomer-free electrocatalyst using acid-grafted carbon black as a proton-conductive support. Journal of Power Sources, 2022, 529, 231192.	7.8	7
35	Evaluation of Liquid and Mass Transfer in GDL by Direct Network Simulation. ECS Transactions, 2008, 16, 1661-1671.	0.5	6
36	Impedance-Based Performance Analysis of Micropatterned Polymer Electrolyte Membrane Fuel Cells. Journal of Electrochemical Energy Conversion and Storage, 2022, 19, .	2.1	6

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37	Importance of Mass Transport in High Energy Density Lithiumâ€Sulfur Batteries Under Lean Electrolyte Conditions. Batteries and Supercaps, 2022, 5, .	4.7	6
38	Simulation of the compaction of an all-solid-state battery cathode with coated particles using the discrete element method. Journal of Power Sources, 2022, 530, 231279.	7.8	6
39	Reaction and Mass Transport Simulation of Polymer Electrolyte Fuel Cell for the Analysis of the Key Factors Affecting the Output Performance in the Catalyst Layer. ECS Transactions, 2016, 75, 385-392.	0.5	5
40	Design of Interfaces and Phase Interfaces on Cathode Catalysts for Polymer Electrolyte Fuel Cells. Chemistry Letters, 2021, 50, 136-143.	1.3	5
41	Identifying Parameters from Discharging and Relaxation Curves of Lithium-Ion Batteries Using Porous Electrode Theory. Journal of Chemical Engineering of Japan, 2021, 54, 207-212.	0.6	4
42	Numerical Analysis of Silica Coating Effect on Pt Cathode Catalyst in Polymer Electrolyte Fuel Cells. Journal of Chemical Engineering of Japan, 2021, 54, 226-231.	0.6	4
43	Influence of Surface Structure on Performance of Inkjet Printed Cathode Catalyst Layers for Polymer Electrolyte Fuel Cells. Journal of Electrochemical Energy Conversion and Storage, 0, , 1-26.	2.1	4
44	System Optimization by Augmented Lagrangian Function Method for CO2 Recovery System. Kagaku Kogaku Ronbunshu, 2008, 34, 402-409.	0.3	4
45	Prevention of Degradation of a Polymer Electrolyte Fuel Cell. Kagaku Kogaku Ronbunshu, 2009, 35, 304-311.	0.3	4
46	Examination of the Optimal Separator Shape by PEFC Reaction and Flow Analysis.. Kagaku Kogaku Ronbunshu, 2003, 29, 823-828.	0.3	4
47	Study on Optimization of a CO2 Recovery System from Flue Gas by Use of Honeycomb-Type Adsorbent. Kagaku Kogaku Ronbunshu, 2007, 33, 218-226.	0.3	4
48	Microscale simulations of reaction and mass transport in cathode catalyst layer of polymer electrolyte fuel cell. International Journal of Hydrogen Energy, 2022, 47, 12665-12683.	7.1	4
49	3D generation and reconstruction of the fuel cell catalyst layer using 2D images based on deep learning. Journal of Power Sources Advances, 2022, 14, 100084.	5.1	4
50	Performance of Carbon-Supported Pt Nanoparticles Covered by Silica Layers with Low Ionomer in Polymer Electrolyte Fuel Cells. ECS Transactions, 2018, 86, 453-460.	0.5	3
51	Energetic Minimization of Liquefied Natural Gas Single Nitrogen Expander Process Using Real Coded Genetic Algorithm. Journal of Chemical Engineering of Japan, 2019, 52, 130-137.	0.6	3
52	Inlet Configuration of a Recovery System for Methane Hydrate using Gas Lift. Kagaku Kogaku Ronbunshu, 2007, 33, 599-605.	0.3	3
53	Design of Uniform Flow in Equipments by Lattice Gas Automata Method and an Evaluation of Its Adaptability to Parallel Processing. Kagaku Kogaku Ronbunshu, 2003, 29, 421-426.	0.3	3
54	Reaction and Flow Analysis for Polymer Electrolyte Fuel Cell.. Kagaku Kogaku Ronbunshu, 2003, 29, 197-203.	0.3	3

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55	Optimization of Rotor-Type Solvent Recovery System for Low-Concentration Solvent. Kagaku Kogaku Ronbunshu, 2006, 32, 402-408.	0.3	3
56	Influence of the Diffusion Media Structure for the Bubble Distribution in Direct Formic Acid Fuel Cells. Journal of the Electrochemical Society, 2020, 167, 134502.	2.9	3
57	Simulation to estimate the correlation of porous structure properties of secondary batteries determined through machine learning. Journal of Power Sources Advances, 2022, 15, 100094.	5.1	3
58	Reaction and Mass Transport Simulation of 3-Dimensional All-Solid-State Lithium-Ion Batteries for the Optimum Structural Design. ECS Transactions, 2015, 69, 83-90.	0.5	2
59	Dimensionless Model Analysis of PEFC Cathode. ECS Transactions, 2016, 75, 147-156.	0.5	2
60	Electrode Designs of Lithium Ion Batteries Utilizing the Simulation of Porous Structures. ECS Transactions, 2017, 75, 165-172.	0.5	2
61	Simulation of Lithium-Ion Battery with Effect of Volume Expansion of Active Materials. ECS Transactions, 2017, 80, 275-282.	0.5	2
62	Parameter Optimization in the Drying Process of Catalyst Ink for PEFC Electrode Films with Few Cracks. ECS Transactions, 2021, 104, 17-23.	0.5	2
63	Simulation for All-Solid State Batteries with Multi-Element Network Model. MATEC Web of Conferences, 2021, 333, 17002.	0.2	2
64	Modeling of Power Generation Performance for Polymer Electrolyte Fuel Cell.. Kagaku Kogaku Ronbunshu, 2003, 29, 191-196.	0.3	2
65	Optimization of Rotor-Type Solvent Recovery System for Low Concentration Solvent (Optimization) Tj ETQq1 1 0.784314 rgBT /Overlock 2006, 32, 477-483.	0.3	2
66	Uniformization of Flow through a Honeycomb Structure by the Lattice Boltzmann Method. Kagaku Kogaku Ronbunshu, 2009, 35, 573-581.	0.3	2
67	Design of porous metal collector via bubble template-assisted electrochemical deposition using numerical simulation. Chemical Engineering Journal Advances, 2022, 10, 100266.	5.2	2
68	Simulation of All-Solid-State Lithium-Ion Batteries With Fastening Stress and Volume Expansion. Journal of Electrochemical Energy Conversion and Storage, 2022, 19, .	2.1	2
69	Stress Prediction of the Particle Structure of All-Solid-State Batteries by Numerical Simulation and Machine Learning. Frontiers in Chemical Engineering, 2022, 4, .	2.7	2
70	Influence of Cathode Catalyst Layer with SiO2-Coated Pt/Ketjen Black Catalysts on Performance for Polymer Electrolyte Fuel Cells. Catalysts, 2021, 11, 1517.	3.5	2
71	Mass Transfer Analysis in PEFC Diffusion Layer by Lattice Gas Automata Method. JSME International Journal Series B, 2006, 49, 653-659.	0.3	1
72	Numerical Simulations of Droplet Upwelling into Gas Channel of PEFC(<Special Issue>The 14th) Tj ETQq0 0 0 rgBT /Overlock 10 Tf of the Japan Society of Mechanical Engineers Series B B-hen, 2010, 76, 420-422.	0.2	1

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73	Simulation of Liquid Water Evaporation in GDL for PEMFC Under Gas Purge Condition. , 2011, , .		1
74	Study on the Drag Force Coefficient between Gas and Liquid on the Gas-Lift System to Recover the Methane Hydrate. Journal of Power and Energy Systems, 2011, 5, 388-399.	0.5	1
75	Simulation of Optimization and Utilization for LiB with Multi-Element Network. ECS Transactions, 2017, 80, 251-258.	0.5	1
76	Molecular Dynamics Study of the Thickness Dependence of Structure and Mass Transport in Ionomer Thin Film. ECS Transactions, 2018, 86, 469-474.	0.5	1
77	Optimization and System Control of a Wet Flue Gas Desulfurization System. Kagaku Kogaku Ronbunshu, 2007, 33, 544-552.	0.3	1
78	507 Design of Uniform Flow in Fuel Cell by Lattice Gas Automata Method. The Proceedings of the Computational Mechanics Conference, 2001, 2001.14, 547-548.	0.0	1
79	Experimental Study and Performance Simulation of a Wet Flue Gas Desulfurization System. Kagaku Kogaku Ronbunshu, 2007, 33, 534-543.	0.3	1
80	Study on Deterioration Mechanism of Polymer Electrolyte Fuel Cell. Kagaku Kogaku Ronbunshu, 2009, 35, 184-190.	0.3	1
81	Effect of Double-Sided 3D Patterned Cathode Catalyst Layers on Polymer Electrolyte Fuel Cell Performance. Energies, 2022, 15, 1179.	3.1	1
82	Mass Transfer Analysis in PEFC Diffusion Layer by Lattice Gas Automata Method. 880-02 Nihon Kikai Gakkai RonbunshÅ« Transactions of the Japan Society of Mechanical Engineers Series B B-hen, 2005, 71, 2642-2648.	0.2	0
83	Effect of Two-phase Flow Condition in Gas Channel and GDL on Cell Performance of Polymer Electrolyte Fuel Cell. ECS Transactions, 2007, 5, 261-268.	0.5	0
84	Numerical Analysis of Liquid and Heat Transfer in Heterogeneous GDL. ECS Transactions, 2009, 16, 769-777.	0.5	0
85	Evaluation of Two-Phase Condition and Mass Transfer in GDL With Pore Network Model. , 2009, , .		0
86	Effect of Internal and Interface Structure of GDL on Liquid Water and Oxygen Transport in PEFC. , 2010, , .		0
87	Numerical Analysis of Two-Phase Condition in GDL with Pore Network Model(<Special Issue>The 14th) Tj ETQq1 1 0.784314 rgBT /Ov of the Japan Society of Mechanical Engineers Series B B-hen, 2010, 76, 415-417.	0.2	0
88	Effect of Carbon Black Aggregate Structure on Transport Phenomena of PEFC. ECS Meeting Abstracts, 2011, , .	0.0	0
89	Numerical Simulations of Droplets on Porous Structures by Use of Lattice Boltzmann Method. , 2011, , .		0
90	The Direct Numerical Simulation of the Rising Gas Bubble With the Volume of Fluid (VOF) Method. , 2011, , .		0

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91	Numerical Simulations of Droplets on the Hydrophobic and Hydrophilic Walls by Lattice Boltzmann Method. , 2011, , .		0
92	Effect of Binder Distribution in LIB Electrode on Mass Transport Performance. ECS Meeting Abstracts, 2012, , .	0.0	0
93	Hydrogen Production. , 2016, , 147-165.		0
94	Nano/Microscale Simulation of Proton Transport in Catalyst Layer. ECS Transactions, 2019, 92, 515-522.	0.5	0
95	The Effect of CO2 Bubble Distribution on Power Generation Performance of a Direct Formic Acid Fuel Cell. ECS Transactions, 2019, 92, 335-340.	0.5	0
96	Microscopic Analysis of Polymer Electrolyte Fuel Cell by Lattice Gas Automata. Journal of Chemical Engineering of Japan, 2006, 39, 537-544.	0.6	0
97	Study on Automated Porous Plate Design for Uniformization of Flow through a Honeycomb Structure. Kagaku Kogaku Ronbunshu, 2009, 35, 582-588.	0.3	0
98	Numerical Simulations of Methane Hydrate Particles around the Bottom of the Recovery Pipe of the Gas-Lift Method. Kagaku Kogaku Ronbunshu, 2010, 36, 149-156.	0.3	0
99	Modeling Carbon Black Aggregate Structure and Ionomer Coat for Optimum Design of PEFC Catalyst Layer. , 2011, , .		0
100	Numerical analysis on influence of surface structures of cathode catalyst layers on performance of polymer electrolyte fuel cells. Electrochemical Science Advances, 2023, 3, .	2.8	0
101	Evaluation of ionomer distribution on porous carbon aggregates in catalyst layers of polymer electrolyte fuel cells. Journal of Power Sources Advances, 2022, 15, 100096.	5.1	0