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Education Information

Post Doctorate, Kyushu University (JAPONYA), School of Engineering, HYdrogen Energy Systems, Japan 2017 - 2019

Doctorate, Kyushu University (JAPONYA), School of Engineering, Hydrogen Energy Systems, Japan 2014 - 2017

Postgraduate, Ulm University (ALMANYA), Institute of Energy Conversion and Storage, Energy Science and Technology, Germany 2011 - 2013

Undergraduate, Selcuk University, Faculty Of Engineering-Architecture, Mechanical Engineering, Turkey 2005 - 2011

Foreign Languages

English, C2 Mastery

German, C1 Advanced

Japanese, B2 Upper Intermediate

Academic Titles / Tasks

Assistant Professor, Abdullah Gul University, Mühendislik Fakültesi, Makine Mühendisliği, 2019 - Continues

Published journal articles indexed by SCI, SSCI, and AHCI

- I. **Thermal stresses in SOFC stacks: the role of mismatch among thermal conductivity of adjacent components**
AYDIN Ö., Matsumoto G., Shiratori Y.
TURKISH JOURNAL OF CHEMISTRY, vol.45, no.3, pp.719-736, 2021 (SCI-Expanded)
- II. **Performance and Durability of One-Cell Module of Biogas-Utilizing SOFC Equipped with Graded Indirect Internal Reformer**
AYDIN Ö., Matsumoto G., Kubota A., Dang Long Tran D. L. T., Sakamoto M., Shiratori Y.
JOURNAL OF THE ELECTROCHEMICAL SOCIETY, vol.167, no.6, 2020 (SCI-Expanded)
- III. **Designing graded catalytic domain to homogenize temperature distribution while dry reforming of CH₄**
Aydin O., Kubota A., Dang Long Tran D. L. T., Sakamoto M., Shiratori Y.
INTERNATIONAL JOURNAL OF HYDROGEN ENERGY, vol.43, no.36, pp.17431-17443, 2018 (SCI-Expanded)
- IV. **Mass transport limitation in inlet periphery of fuel cells: Studied on a planar Solid Oxide Fuel Cell**
Aydin O., Ochiai T., Nakajima H., Kitahara T., Ito K., Ogura Y., Shimano J.
INTERNATIONAL JOURNAL OF HYDROGEN ENERGY, vol.43, no.36, pp.17420-17430, 2018 (SCI-Expanded)

- V. **Concentration Gradient of Reactants Extending from Reaction Sites Inward Inlet Periphery of Fuel Cells**
Aydin O., Nakajima H.
JOURNAL OF THE ELECTROCHEMICAL SOCIETY, vol.165, no.5, 2018 (SCI-Expanded)
- VI. **Reliability of the numerical SOFC models for estimating the spatial current and temperature variations**
Aydin O., Nakajima H., Kitahara T.
INTERNATIONAL JOURNAL OF HYDROGEN ENERGY, vol.41, no.34, pp.15311-15324, 2016 (SCI-Expanded)
- VII. **Processes Involving in the Temperature Variations in Solid Oxide Fuel Cells In-Situ Analyzed through Electro-Segmentation Method**
Aydin O., Nakajima H., Kitahara T.
JOURNAL OF THE ELECTROCHEMICAL SOCIETY, vol.163, no.3, 2016 (SCI-Expanded)
- VIII. **Current and temperature distributions in-situ acquired by electrode-segmentation along a microtubular solid oxide fuel cell operating with syngas**
Aydin O., Nakajima H., Kitahara T.
JOURNAL OF POWER SOURCES, vol.293, pp.1053-1061, 2015 (SCI-Expanded)
- IX. **Challenges Associated with Measuring the Intrinsic Electrical Conductivity of Carbon Paper Diffusion Media**
Aydin O., Zedda M., Zamel N.
FUEL CELLS, vol.15, no.3, pp.537-544, 2015 (SCI-Expanded)
- X. **In-situ diagnosis and assessment of longitudinal current variation by electrode-segmentation method in anode-supported microtubular solid oxide fuel cells**
Aydin O., Koshiyama T., Nakajima H., Kitahara T.
JOURNAL OF POWER SOURCES, vol.279, pp.218-223, 2015 (SCI-Expanded)

Refereed Congress / Symposium Publications in Proceedings

- I. **Indirect internal reforming SOFC accommodating graded-catalytic domain fabricated by paper-structured catalyst**
AYDIN Ö., Matsumoto G., Kubota A., Tran D. L., Sakamoto M., Shiratori Y.
16th International Symposium on Solid Oxide Fuel Cells (SOFC-XVI), Kyoto, Japan, 8 - 13 September 2019, vol.91, pp.1631-1640
- II. **Development of a Compact SOFC Module with Paper-structured Catalyst**
Matsumoto G., AYDIN Ö., Sakamoto M., Sasaki K., Shiratori Y.
The 27th SOFC Symposium in Japan, 13 - 14 December 2018
- III. **Onset of Mass Transport Limitation in Inlet Periphery of Fuel Cells**
AYDIN Ö., Ochiai T., Nakajima H., Kitahara T., Ito K., Ogura Y., Shimano J.
HYPOTHESIS XIII (Hydrogen Power Theoretical and Engineering Solutions International Symposium), Singapore, Singapore, 24 - 27 July 2018
- IV. **Functionally-Graded Catalytic Domain for Homogenizing Temperature Distribution Along a Plate-Type Dry CH₄ Reformer**
AYDIN Ö., Kubota A., Tran D. L., Sakamoto M., Shiratori Y.
HYPOTHESIS XIII (Hydrogen Power Theoretical and Engineering Solutions International Symposium), Singapore, Singapore, 24 - 27 July 2018
- V. **Development of Plate-type Reformer for Downsizing and Power Enhancement of SOFC**
Kubota A., Tran D. L., AYDIN Ö., Sakamoto M., Sasaki K., Shiratori Y.
The 85th Electrochemical Society of Japan (ECSJ) Spring Meeting, Tokyo, Japan, 9 - 11 March 2018
- VI. **Concentration Gradient of Reactants in Fuel Cells Extending from Reaction Sites Inward the Inlet Periphery**
AYDIN Ö., Nakajima H., Kitahara T.

European Fuel Cells Conference Exhibition (EFC17), Naples, Italy, 12 - 15 December 2017

VII. Reliability of Numerical SOFC Tools for Computing Spatial Current and Temperature Variations

AYDIN Ö., Nakajima H., Kitahara T.

2nd International Hydrogen Technologies Congress, Adana, Turkey, 15 - 18 March 2017

VIII. In Situ Measured Spatial Temperature Variations for Improving Reliability of Numerical SOFC Tools

Aydin O., Nakajima H., Kitahara T.

15th International Symposium on Solid Oxide Fuel Cells (SOFC), Florida, United States Of America, 23 - 28 July 2017, vol.78, pp.2191-2201

IX. Contributions to the Spatial Temperature Variations Emerging in SOFCs Elucidated via Combining Experimental and Numerical Techniques

AYDIN Ö., Nakajima H., Kitahara T.

2016 Asian SOFC Symposium, Tokyo, Japan, 4 - 07 September 2016

X. Accuracy of the Numerically Computed Spatial Current and Temperature Variations in SOFCs

AYDIN Ö., Nakajima H., Kitahara T.

12th European SOFC SOE Forum 2016, Lucerne, Switzerland, 5 - 08 July 2016

XI. Influence of convective heat transfer by air flow on local current/temperatures along microtubular solid oxide fuel cells in-situ identified by electrode-segmentation method for Co- and counter-flow configurations

AYDIN Ö., Nakajima H., Kitahara T.

ECS Conference on Electrochemical Energy Conversion Storage with SOFC-XIV, Glasgow, United Kingdom, 26 - 31 July 2015, vol.68, pp.2141-2150

XII. Experimental Evaluation of Internal Hydrocarbon Reforming Reaction in Microtubular SOFCs by Segmentation Method

AYDIN Ö., Koshiyama T., Nakajima H., Kitahara T.

The 55th Battery Symposium in Japan, Kyoto, Japan, 19 - 21 November 2014

XIII. Comprehensive understanding of electrical conductivity measurements of gas diffusion media of PEM fuel cells

AYDIN Ö., Zedda M., Zamel N., Groos U., Hebling C.

20th World Hydrogen Energy Conference, WHEC 2014, Gwangju, South Korea, 15 - 20 June 2014, vol.1, pp.474

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