



Monday, 25 August 2025

| 5:20 - 16:50 | Poster Session I Prometheus Hall | Submissio ID |
|--------------|--|-----------------|
| | Voltage Breakdown Analysis - A Dive into Tafel-Equation and Mass Transport Fabian Scheepers Fabian Scheepers | <u>1</u> |
| | Transient Operating Strategies for Fischer-Tropsch Tail Gas Recirculation into a 120 kW SOEC Reactor Matthias Riegraf ¹ ¹ German Aerospace Center (DLR) | <u>7</u> |
| | Identification of loss processes in PEMWE <u>Debora Brinker</u> ¹ ¹ Karlsruhe Institute of Technology - Institute of Applied Materials - Electrochemical Technologies | <u>19</u> |
| | Ohmic resistance: the bubble story of alkaline water electrolyzers Saksham Pandey ¹ ¹PhD candidate, TU Eindhoven | <u>24</u> |
| | Cold rolled aluminium foil on nickel mesh as a route to high-performance Raney nickel electrodes for hydrogen production in alkaline electrolysis Matthias Gramlich ¹ ¹ Fraunhofer IFAM, Dresden Branch | <u>26</u> |
| | Performance and Durability Trends of Low-Iridium Loaded Electrodes with Commercial Catalysts in PEM Water Electrolysis Nikolai Utsch ¹ ¹ Forschungszentrum Jülich | <u>27</u> |
| | Influence of Iron on the Oxygen Evolution Reaction in Anion Exchange Membrane Water Electrolyzers (AEMEL) Ellis Donker ^{1, 2} ¹ TNO, ² TUE | 33 |
| | How electrode surface engineering and bubble mannt improves alkaline water electrolysis Hannes Rox ^{1, 2} Institute of Fluid Dynamics, Helmholtz-Zentrum Dresden-Rossendorf, Institute of Process Engineering and Environmental Technology, Technische Universität Dresden | <u>35</u> |
| | Validation of ENDURE testing protocols using a 10 kW baseline stack with Ni foam electrodes <u>Lidia</u> <u>Martínez Izquierdo</u> ¹ ¹ Aragon Hydrogen Foundation | <u>36</u> |
| | μ-kinetic modelling of IrO2 dissolution as catalyst for PEM Water Electrolysis Pål Emil England Karstensen ¹ ¹ SINTEF Industry | <u>37</u> |
| | Advancing Standardization in Alkaline Water Electrolysis Felix Lohmann-Richters ¹ ¹ Electrochemical Process Engineering (IET-4), Forschungszentrum Jülich GmbH | <u>42</u> |
| | Bio-Inspired Electrocatalyst from Cable Bacteria for the Oxygen Evolution Reaction Kimia Zarean Mousaabadi ¹ Center for Electromicrobiology, Section for Microbiology, Department of Biology, Aarhus University, Aarhus C, Central Jutland, Denmark | <u>43</u> |
| | Novel 3D Fibrous Electrodes for Water Alkaline Electrolysis Andrea Russo ¹ ¹ Technical University of Denmark | <u>50</u> |
| | Understanding and controlling crack formation in catalyst layers for PEM electrolysis Nadine Zimmerer¹ ¹Thin Film Technology / Karlsruhe Institute of Technology | <u>51</u> |
| | Large amplitude fluctuations in water electrolyzer current supply: dynamic voltage response modelling and effect on active power consumption Pietari Puranen 1 LUT | <u>52</u> |





| Cell-construction-dependent predictive modelling of gas supersaturation in PEM electrolyzers governing corresponding crossover and electrochemical effects Marcus Tümmler ¹ ¹ Fraunhofer IWES | <u>55</u> |
|---|------------|
| Evaluating IrO2 stability using in-line setup of electrochemical flow cell and ICP-MS Øyvind Lindgård 1NTNU | <u>58</u> |
| The Influence of AI on NiFe Electrocatalysts for Enhanced OER in Alkaline Water Electrolysis <u>Tugce Ustunel 1, 2 1 Umeå University, 2 Permascand</u> | <u>59</u> |
| Electrochemically Formed Nickel Hydroxide Pre-catalysts for Alkaline Oxygen Evolution Reaction Tested Under Industrially Relevant Conditions Johan Ehlers Department of Energy Conversion and Storage, Technical University of Denmark | <u>60</u> |
| Alkaline Water Electrolyzer Behavior Under Dynamic Operation Lauri Järvinen ¹ LUT University | <u>61</u> |
| Impact of REDII and renewable energy source on RFNBO H2 ratio from electrolysers Anders Ødegård¹ ¹SINTEF Industry | <u>62</u> |
| Effect of Voltage Elevation on Energy Efficiency of Power Electronic Converters in the Industrial Alkaline Water Electrolyzers Galdi Hysa ¹ ¹ LUT University | <u>66</u> |
| Investigating the effect of operating conditions on void fraction, stray currents, and current distribution in an alkaline water electrolysis stack using CFD Muhammad Asim Sarwar ¹ ¹ LUT University | <u>68</u> |
| Towards seawater electrolysis in alkaline media: assessing the impact of hypochlorite Nathan Wauthy ¹ ¹ Université catholique de Louvain (UCLouvain), Div. of Materials and Process Engineering, Louvain-la-Neuve, Belgium | <u>73</u> |
| Manganese-cobalt based electrocatalysts for the oxygen evolution reaction in acidic water electrolysis and electrowinning Duygu Gumus ¹ Norwegian University of Science and Technology | <u>84</u> |
| Reversible Performance Recovery in PEM Water Electrolysis: Insights from Time-Resolved NAP-XPS and Electrochemical Analysis Alexander Rex ¹ Institute of Electric Power Systems, Leibniz University Hannover, Appelstraße 9A, 30167 Hannover, Germany. | 92 |
| Durability Investigation for PEM Water Electrolysis Cells Merit Bodner ¹ ¹ Graz University of Technology | <u>97</u> |
| Challenges during direct coating and drying of electrodes for proton exchange membrane water electrolysis Linus Janning ¹ ¹Thin Film Technology (TFT), Karlsruhe Institute of Technology (KIT), Karlsruhe, Germany | 99 |
| Curvature-controlled Ir@IrOx/hollow TiO ₂ catalysts for enhanced oxygen evolution reaction activity and durability in PEM water electrolysis HyunWoo Chang¹ ¹Korea Advanced Institute of Science and Technology | 100 |
| Development of a 5 kW AEM Electrolyzer Marian Garcia-Montolio ¹ ¹ Leitat | <u>104</u> |
| Studying live catalyst dissolution of different AST-Protocols in a full cell PEM electrolysis setup with online ICP-MS measurement technique Torben Gottschalk ¹ Leibniz University Hannover, IfES-EES, Appelstr. 9A, 30167 Hannover, Germany | <u>106</u> |
| The Use of In Situ Reference Electrodes to Accelerate Development of Green Hydrogen Technologies Billie Sherin ¹ ¹ National Physical Laboratory | <u>107</u> |





| Disruptive ionomer-free electrode for anion exchange membrane electrolysis Yejung Choi ¹ ¹ SINTEF Industry | <u>112</u> |
|--|------------|
| The Influence of Electronic Metal-Support Interactions in Oxide-Supported Iridium Oxide Catalysts on the Performance of the Oxygen Evolution Reaction Ziba S. H. S. Rajan¹ ¹HySA/Catalysis Centre of Competence, Catalysis Institute, Department of Chemical Engineering, University of Cape Town, 7701, South Africa | 113 |
| A CFD model for bubble growth after detachment from an electrode. Nikhilesh Kodur Venkatesh ¹ Delft University of Technology | <u>114</u> |
| The impact of anodic porous transport layer type on the performance of PEM water electrolyser Martin Prokop ¹ ¹ University of Chemistry and Technology, Prague | <u>115</u> |
| Enhancing Anion-Exchange Membrane Water Electrolysis anodes via advanced electrodeposition of porous NiFe structures Maximilian Cieluch ¹ ¹ Westfälische Hochschule University of Applied Sciences | <u>117</u> |
| Structural Optimization of TiO2 supported IrO2 Catalysts for Proton Exchange Membrane Water Electrolysis Darius Hoffmeister ^{1, 2} ¹ Forschungszentrum Jülich GmbH, Helmholtz Institute Erlangen-Nürnberg for Renewable Energy (IET-2), ² Department Chemical and Biological Engineering, Friedrich-Alexander-Universität Erlangen- | <u>122</u> |
| Manipulating the double layer microenvironment by Zn single atom for fast alkaline hydrogen evolution on Ru Minjun Kim ¹ ¹ Korea Advanced Institute of Science and Technology | <u>123</u> |
| The influence of shutdown strategies on PEMWE performance: single-cell and short-stack experiments Thomas Holm ¹ Institute for Energy Technology | <u>125</u> |
| Going Beyond Platinum: Cathode Layer Optimization for PGM-free Catalysts in PEM Water Electrolysis Janna Wierper ¹ ¹ Fraunhofer UMSICHT | <u>126</u> |
| Development of Conductive Oxide Coatings to Reduce the Use of PGMs in Bipolar Plates of PEM Electrolyzers Using Hipims Christian Calero-Almeyda ^{1, 2} ¹ Centro Láser, Universidad Politécnica de Madrid, 2nano4energy SL | 127 |
| Multiphase simulations, experiments, and theory for optimal electrode-diaphragm spacing in near-zero gap alkaline water electrolysis Wouter Leen van der Does ¹ ¹ TU Delft, Process & Energy | <u>129</u> |
| CFD analysis of the role of natural convection on gas crossover in membraneless flow-through electrolysers Ali Yahyaee ¹ Delft University of Technology | <u>132</u> |
| Metal-incorporated Ruthenium Oxide Nanosheet Catalysts for Oxygen Evolution Reaction in PEM Water Electrolysis DongWon Shin ¹ ¹ Korea Advanced Institute of Science and Technology (KAIST) | <u>134</u> |
| Kinetic Analysis of Iridium-Cerium-Oxide Electrocatalysts for the Oxygen Evolution Reaction in PEM water electrolysis Mareike Sonder ¹ Institute for Applied Materials - Electrochemical Technologies, Karlsruhe Institute of Technology | <u>135</u> |
| Bubble Distributions in Porous Electrodes for Alkaline Electrolysers: Insights from Simulation and Neutron Imaging Andreas Jacobsen ¹ ¹ Department of Mechanical and Production Engineering, Aarhus University | 136 |
| Correlation of Cathode Catalyst Layer Properties and Anion Exchange Membrane Water Electrolysis Performance Julia Mehler ¹ ¹ Corporate Research, Robert Bosch GmbH, Renningen/Germany | <u>139</u> |





| Advancing electrode technology for classical alkaline electrolyzers at Stiesdal Hydrogen A/S <u>Lakhotiya</u> ¹ ¹Stiesdal Hydrogen A/S | <u>140</u> |
|--|------------|
| Utilization of Pt Black as Catalyst Support in the Anode of PEM Water Electrolyzers Khajidkhand Chuluunbandi ¹ ¹ Helmholtz-Institute Erlangen-Nürnberg for Renewable Energy (IET-2), Forschungszentrum Jülich GmbH, Cauerstr. 1, 91058 Erlangen | 143 |
| Elucidating the effect of dynamic operation on catalyst layer stability in proton exchange membrane water electrolyzers Magdalena Müller ¹ ¹ SINTEF Industry | <u>145</u> |
| Interplay between structure and electrocatalytic activity in flow-engineered three-dimensional porous transport electrodes for alkaline water electrolysis Renaud Delmelle ¹ ¹ Division of Materials and Process Engineering, Université catholique de Louvain | <u>146</u> |
| Influence of different cell spacer configurations on gas void fractions related to industrial alkaline water electrolysis cells Felix Gäde ¹ Clausthal University of Technologies / EST | <u>149</u> |
| Performance and degradation of positrodes for proton ceramic electrolysers Mengxin Wu ¹ university of oslo | <u>152</u> |
| Alkaline Stability of Metal Organic Frameworks for Energy Applications Jens Oluf Jensen ¹ ¹ Technical University of Denmark, DTU | <u>159</u> |
| Electrochemical activation of Ir-based catalysts oxygen evolution reaction catalysts Irina Pushkareva 1 North-West University, HySA Infrastructure Center of Competence | <u>162</u> |
| Investigation of Preparation Parameters for Membrane Electrode Assembly Towards Anion Exchange Membrane Water Electrolysis (AEMWE) Mostafa Moradi ¹ ¹ Fraunhofer Institute for Ceramic Technologies and Systems IKTS, Arnstadt, GermanyFraunhofer Institute for Ceramic Technologies and Systems IKTS, Arnstadt, Germany | <u>164</u> |
| Gas permeation in PEMWE- run-in behaviour on lab scale: Experimental and model-based investigation Lucas Anschütz ¹ ¹ Siemens Energy Global GmbH & Co. KG | <u>175</u> |
| In-situ measurement of mechanical forces in the MEA in PEM water electrolysis Nils-Eric Rahm¹¹Leibniz Universität Hannover IfES-EES | <u>179</u> |
| Membraneless flow-through water electrolyser with low pressure drop Jelmer Postma ¹ ¹ TU Delft | <u>188</u> |
| Modeling Chemical Membrane Degradation in PEM Water Electrolysis: Integration of Experimental Fluoride Emission Measurements Christoph Eckert ¹ Institute of Electric Power Systems, Leibniz University Hannover | <u>190</u> |
| Platinum Is Not Just Platinum: Experimental Analysis on the Effectiveness and Stability of Different Gas Recombination Catalysts for PEM Water Electrolysis Steffen Brundiers ¹ Leibniz University Hannover, Institute of Electric Power Systems, Appelstraße 9a, 30167 Hannover, Germany | <u>215</u> |
| A framework for multi-scale two-phase flow simulations in Proton Exchange Membrane Water Electrolyzer Wiebke Schrader ¹ Institute of Fluid Mechanics, Karlsruhe Institute of Technology | <u>248</u> |
| Transition Metal Phosphides as Alternative Electrocatalysts to Noble Metals for Water Splitting Magdalena Streckova ¹ Institute of Materials Research, Slovak Academy of Sciences | <u>262</u> |
| | |









Tuesday, 26 August 2025

| 16.50 | 10.20 | Poster Session | II 9. Drinko |
|---------|---------|----------------|--------------|
| 10.50 - | · 18530 | Poster Session | II & Drinks |

Prometheus Hall

| Alkaline water electrolysis beyond 3 A/cm2 a Maximilian Demnitz ¹ ¹ Technische Universiteit Ein | t less than 2.3 V using catalyst coated diaphragms dhoven | 3 |
|--|---|-------------------|
| Unleashing the potential of Raney Nickel election | etrodes at high current density Hsin-Yu (Stella) Chen ¹ | <u>16</u> |
| Plasma-sprayed non-PGM anodes and cathod German Aerospace Center | les for alkaline water electrolysis Regine Reißner 1 1DLR | <u>2</u> : |
| Transition Metal Phosphides: Innovative Cata Fatemeh Poureshghi ¹ ¹ Nel Hydrogen ASA | lysts for Oxygen Evolution Reaction in Alkaline Media | 4 |
| Electrocatalytic-Catalytic Process for Decoupl Davydova ¹ ¹ Technion - Israel Institute of Technology | ed Water Electrolysis in NaBr Electrolyte <u>Elena</u> ogy | <u>4</u> 9 |
| The effect of electrode hole size on zero gap Process & Energy. Leeghwaterstraat 39, 2628 CB | alkaline water electrolysis <u>J.W. Haverkort</u> ¹ ¹ TU Delft, Delft, The Netherlands | <u>8</u> |
| | is at Elevated Temperatures: Test Bench Development 20k 1 | <u>16</u> |
| | | |
| Performance Sunwoo Joo 1 Helmholtz-Institute | on a Zero-Gap Alkaline Water Electrolysis Cell e Erlangen-Nürnberg for Renewable Energy (IET-2), | <u>16</u> |
| Performance Sunwoo Joo ¹ ¹ Helmholtz-Institute Forschungszentrum Jülich GmbH Quantifying Spatial Extension of Reaction Zor | | |
| Performance Sunwoo Joo ¹ ¹ Helmholtz-Institute Forschungszentrum Jülich GmbH Quantifying Spatial Extension of Reaction Zor Systems Einar Vøllestad ¹ ¹ SINTEF IrO2/MnO2 metal oxide-support interaction e | e Erlangen-Nürnberg for Renewable Energy (IET-2), | 17 |
| Performance Sunwoo Joo¹ ¹Helmholtz-Institute Forschungszentrum Jülich GmbH Quantifying Spatial Extension of Reaction Zor Systems Einar Vøllestad¹ ¹SINTEF IrO2/MnO2 metal oxide-support interaction e Luo¹ ¹Suzhou Lab | e Erlangen-Nürnberg for Renewable Energy (IET-2), ne on Model BaGd0.3La0.7Co206-δ Positrode enables robust acidic water oxidation Xiaoyan (Jessica) es for PEM and AEM Water Electrolysis via MEA | 163 170 173 |
| Performance Sunwoo Joo ¹ ¹ Helmholtz-Institute Forschungszentrum Jülich GmbH Quantifying Spatial Extension of Reaction Zor Systems Einar Vøllestad ¹ ¹ SINTEF IrO2/MnO2 metal oxide-support interaction e Luo ¹ ¹ Suzhou Lab Unlocking the Potential of PGM-Free Catalysts Optimization Julia Jökel ¹ ¹ Fraunhofer UMSICH ¹ Advanced Catalysts for Proton Exchange Mem Atomic Layer Deposition Fiona Pescher ^{1,2} ¹ U | e Erlangen-Nürnberg for Renewable Energy (IET-2), ne on Model BaGd0.3La0.7Co206-δ Positrode enables robust acidic water oxidation Xiaoyan (Jessica) es for PEM and AEM Water Electrolysis via MEA | <u>17</u> |
| Performance Sunwoo Joo¹ ¹Helmholtz-Institute Forschungszentrum Jülich GmbH Quantifying Spatial Extension of Reaction Zor Systems Einar Vøllestad¹ ¹SINTEF IrO2/MnO2 metal oxide-support interaction e Luo¹ ¹Suzhou Lab Unlocking the Potential of PGM-Free Catalysts Optimization Julia Jökel¹ ¹Fraunhofer UMSICH¹ Advanced Catalysts for Proton Exchange Mem Atomic Layer Deposition Fiona Pescher¹.² ¹U ²Freiburg Materials Research Center (FMF) Electrodeposited and electrochemically cond | e Erlangen-Nürnberg for Renewable Energy (IET-2), ne on Model BaGd0.3La0.7Co2O6-δ Positrode enables robust acidic water oxidation Xiaoyan (Jessica) es for PEM and AEM Water Electrolysis via MEA T inbrane Water Electrolysis Synthesized via Fluidized Bed | 17: 17: |





| | , |
|---|------------|
| Investigation of additives for PEM water electrolysis anode electrodes with low iridium loadings to increase layer thickness and improve electrical conductivity Jakob Heubner 1 Fraunhofer ISE | <u>191</u> |
| Composite Bipolar Plates for PEM Water Electrolysis Oskar Weiland Leibniz University Hannover, Institute of Electric Power Systems | <u>192</u> |
| Advanced Nickel-Based Porous Transport Layers for Efficient Hydrogen Production Irina Galkina ¹ ¹ Forschungszentrum Jülich GmbH, Institute of Energy Technologies (IET-4), Electrochemical Process Engineering, 52425 Jülich, Germany | <u>193</u> |
| Solution Combustion Synthesis of Ni- based electrocatalyst for Oxygen Evolution Reaction LIYA SHERLY LEO ¹ ¹ Ph.D | <u>201</u> |
| Predominant Role of Ruthenium Nanoclusters in the Presence of Single Atoms for Enhanced Alkaline Hydrogen Evolution Reaction Jae-Hoon Baek 1Ulsan National Institute of Science and Technology | 202 |
| High-Period Element Doping as a Key Driver for Hydrogen Evolution in Proton Exchange Membrane Water Electrolyzer Se Jung Lee ¹ ¹ Ulsan National Institute of Science and Technology | <u>204</u> |
| Anion exchange membrane water electrolysis utilizing superparamagnetic ferrites as OER catalysts Anna Kitayev ¹ , Ervin Tal Gutelmacher ¹ ¹ Hydrolite | <u>205</u> |
| High Entropy Material Catalysts For Efficient Low-Alkaline Anion Exchange Membrane Water Electrolyzer Operation Arthur Thévenot ¹ ¹ TU Berlin | 206 |
| TiOx protected stainless steel for proton exchange membrane water electrolysis Konstantin-Egorov ¹ ¹ Empa, Swiss Federal Laboratories for Materials Science and Technology, Dubendorf/Switzerland | 207 |
| Influence of Hydrogen Recombination Activity of Different PTL Coatings on Measured Hydrogen in Oxygen Content in PEM Water Electrolysis Steffen Brundiers ¹ ¹ Leibniz University Hannover, Institute of Electric Power Systems, Appelstraße 9a, 30167 Hannover, Germany | <u>210</u> |
| Comparative study of pinhole detection methods in proton exchange membrane water electrolysis $ \underline{\text{Davide Ripepi}^1} {}^{1}\text{TNO} $ | <u>213</u> |
| Temperature Optimization of PEM Water Electrolyzers for Minimum Hydrogen Prices Gregor Zwaschka 1 Fraunhofer-Institut für Werkzeugmaschinen und Umformtechnik | 214 |
| Dynamic modelling of the PEMWE balance of plant Amalie Bisgaard Møller ¹ University of Oslo | <u>223</u> |
| Non-permanently Charged Anion Exchange Ionomers -'super' strong Brønsted base Phosphazene as Functional Group Jacqueline Goldmann ¹ IMTEK - Department of Microsystems Engineering, Albert-Ludwigs University Freiburg | <u>224</u> |
| Impact of MEA Conditioning on the Performance of PEM Electrolyzers Ali Javed¹¹¹Institute of Energy Technologies, Fundamental Electrochemistry (IET-1), Forschungszentrum Jülich, Jülich, 52425, Germany | 225 |
| Degradation Exploration of Proton Exchange Membrane Water Electrolysis under a Fluctuating Power Yali Li ¹ Suzhou Laboratory | 230 |
| Optimization of electrochemical synthesis of NiFe Layered Double Hydroxides for Oxygen Evolution Reaction in an Alkaline Water electrolysis Jaromir Hnat ¹ ¹ University of Chemistry and Technology Prague | 233 |
| | |





| Boosting the performances of IrO2 elecro-catalyst by engineering the porosity for Proton Exchange Membrane Water Electrolyzers Tamina Leygonie ¹ ¹ LCMCP Sorbonne Université | <u>234</u> |
|--|------------|
| Assessing Hydrogen Crossover Characteristics in Anion-Exchange Membrane Water Electrolysis of various commercial Membranes Alexander Kohushölter ¹ ¹ Albert-Ludwigs-Universität Freiburg | <u>235</u> |
| The effect of anode catalyst layer packing density and conductivity on polymer electrolyte water electrolyser performance Zarina Turtayeva ¹ Paul Scherrer Institute | 237 |
| Revolutionizing Green Hydrogen Production with Next Generation PEM Water Electrolyzer Electrodes (HOPE) Anita Hamar Reksten ¹ ¹ SINTEF Industry | 239 |
| Asymmetric Crossover in Asymmetric Diaphragms for Alkaline Water Electrolysis Mikkel Rykær Kraglund ¹ ¹ Technical University of Denmark | <u>241</u> |
| Activation tests in PEM electrolysis - methodology and discussion Markus Nohl ¹ ¹ European Commission, Joint Research Centre (JRC), Petten, Netherlands | <u>244</u> |
| Enhancing Catalyst Layer Homogeneity in AEM Water Electrolysis: A Systematic Study of Nickel Hydroxide Ink Formulation Susanne Koch ¹ ¹ 1Electrochemical Energy Systems, IMTEK Department of Microsystems Engineering, University of Freiburg Georges-Köhler-Allee 103, 79110 Freiburg, Germany | <u>245</u> |
| Carbon Nanofibers for Electrolysis: Performance, Degradation and Ionomer Contact Dylan Schulz Chalmers University of Technology | <u>246</u> |
| Fluorine-free sPPS membranes combining good efficiency, high stability and low gas crossover in PEM electrolysis Clara Schare ¹ ¹ Hahn-Schickard | <u>247</u> |
| Selection of materials for alkaline water electrolysis cells Gema Sevilla ¹ ¹ NORDEX ELECTROLYZERS | <u>251</u> |
| In situ Fe3+ incorporation vs. compounded Fe doping of NiO and Ni(OH)2 catalysts for the alkaline oxygen evoluton reaction Konstantin Kimon Rücker ¹ Institute of Engineering Thermodynamics, German Aerospace Center (DLR), Carl-von-Ossietzky-Str.15, 26129 Oldenburg, Germany | <u>252</u> |
| Integrated reference electrode for AEM-WE MEA-characterization Bastian Kaufmann ¹ ¹ The Hydrogen and Fuel Cell Center (ZBT GmbH) | <u>256</u> |
| Wire Electrospun Nanofibers for Ultra-Low Loaded Anodic Catalyst Layers in PEM Water Electrolysis Edgar Cruz Ortiz ^{1, 2} ¹ Hahn-Schickard, ² Uni Freiburg | <u>259</u> |
| Comparison of Iridium Metal and Oxide Catalysts as PTEs via PVD Lukas Löttert ^{1,2} ¹ Helmholtz-Institute Erlangen-Nürnberg for Renewable Energy (IET-2), Forschungszentrum Jülich GmbH, ² Department of Chemical and Biological Engineering, Friedrich-Alexander-Universität Erlangen-Nürnberg | <u>260</u> |
| High-Entropy Transition Metal Phopshide as an Efficient Catalyst for Alkaline Hydrogen Evolution Reaction Alexandra Gubóová ¹ Institute of Materials Research, Slovak Academy of Sciences | <u>264</u> |
| Iridium catalyst dissolution in PEM water electrolysis single-cells under steady-state and dynamic operation using single-pass water flow <u>Tobias Franz</u> ¹ ¹Otto-von-Guericke Universität Magdeburg | <u>275</u> |
| Simplifying Quantification of Shunt Currents-Introducing a dimensionless quantity Sierd Kuil ¹ ¹Technical University of Eindhoven | <u>279</u> |





| Sputtered Low-Loading Ru-Based Porous Transport Electrodes for the Anode Catalyst in Proton Exchange Membrane Water Electrolysis Martin Krammer ¹ AIT Austrian Institute of Technology, Center for Energy, Power and Renewable Gas Systems | <u>281</u> |
|---|------------|
| Synthesis and Characterization of nanostructured OER Electrocatalysts for PEM Water Electrolysis Oumeima Jouini ^{1, 2, 3} ¹ ELOGEN, ² ICMMO, ³ University Paris Saclay | <u>284</u> |
| Bridging iron phosphide and low-content iridium oxide catalysts for proton exchange membrane water electrolysis Mafalda Pina ^{1, 2} ¹ Faculty of Engineering, University of Porto, ² International Iberian Nanotechnology Laboratory (INL) | <u>287</u> |
| Ionomer-free, well-structured Microporous Electrodes for Reduction of Iridium Loading of PEM Water Electrolyzers Patrick Trinke ¹ 1 Leibniz University Hannover, Institute of Electric Power Systems, Appelstraße 9a | <u>293</u> |
| Oxidation of Porous Transport Electrodes in Anion Exchange Membrane Water Electrolysis with Alkaline and Pure Water Feed Luis Hagner 1MTEK - Department of Microsystems Engineering, Universität Freiburg | <u>295</u> |
| Multiscale Modeling and Simulation of Nickel-Based Electrodes for Anion Exchange Membrane Water Electrolysis Steffen Hess 1 Forschungszentrum Jülich | 299 |
| Analysis of Oxygen Bubble Behavior in Various Catalyst Patterns for Enhanced PEMWE Performance MinJeong Ju ¹ ¹ University of Seoul | 300 |
| 3D periodic structure used as an electrode for 3rd generation alkaline water electrolyzers Rodrigo <u>Lira Garcia Barros</u> ¹ ¹ VDL Hydrogen Systems | 303 |
| Approach for low-loaded Iridium electrodes for proton exchange membrane water electrolyzer Dilip Ramani ¹ ¹ NV Bekaert SA | 304 |
| Degradation Analysis and Accelerated Stress Tests (ASTs) for PEM Water Electrolyzer Tsutomu Ioroi¹ AIST | <u>305</u> |
| Physico-Chemical Characterization and Preliminary Electrochemical Performance of Proton-Conductor Solid Oxide Electrolysis Cells Emanuele De Bona ¹ ¹ Fondazione Bruno Kessler | <u>307</u> |
| Low Iridium-Content Materials as Anode Catalysts for PEM Water Electrolysis Annette-Enrica Surkus ¹ Leibniz-Institut für Katalyse | 309 |
| Model-Based Techno-Economic Analysis of Strategic Stack Replacement in Water Electrolysis Christoph Löcherer¹¹ Leibniz University Hannover, Institute of Electric Power Systems, Appelstraße 9a, 30167 Hannover, Germany | 310 |
| Numerical Investigation of Gas-Liquid Flow Characteristics in a Visualized PEM Electrolyzer Cell Mino Woo ¹ ¹ Korea Maritime and Ocean University | <u>315</u> |
| Effect of Iron Ion Contamination on the I-V Characteristics in PEM Water Electrolysis Kazuma Shinozaki¹ ¹Toyota Labs | <u>324</u> |