



燃料電池

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巻頭言

The Critically Important Mission of the FCDIC

特集

海外の燃料電池開発動向

技術情報

放射光を用いた燃料電池の最新解析技術：PEFC Pt/Cカソード触媒層のナノXAFS-STEM/EDS 同視野イメージング

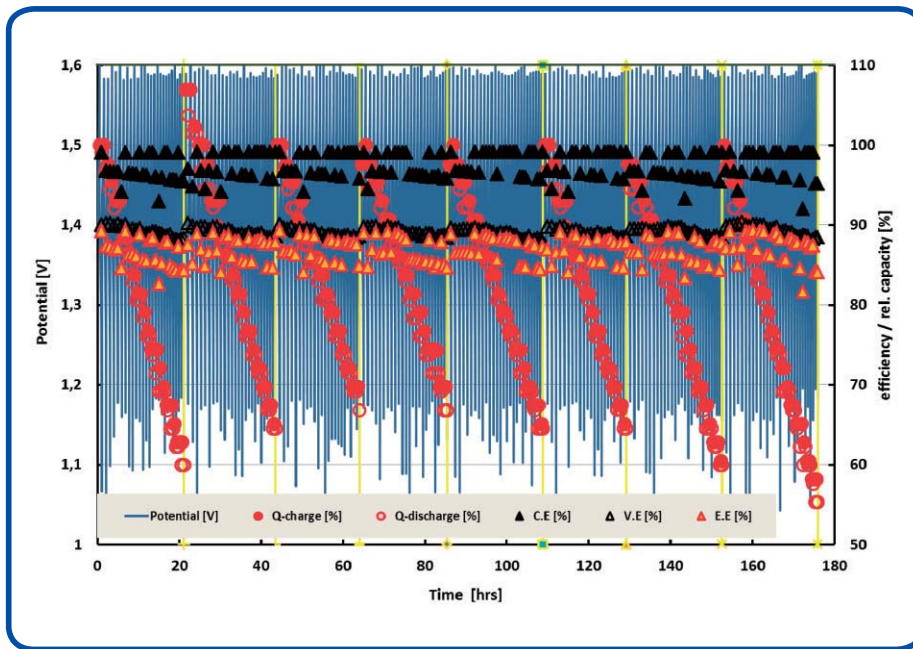
投稿論文

籠状シリケート高分子を支持体とした電解質材料の評価

会員紹介

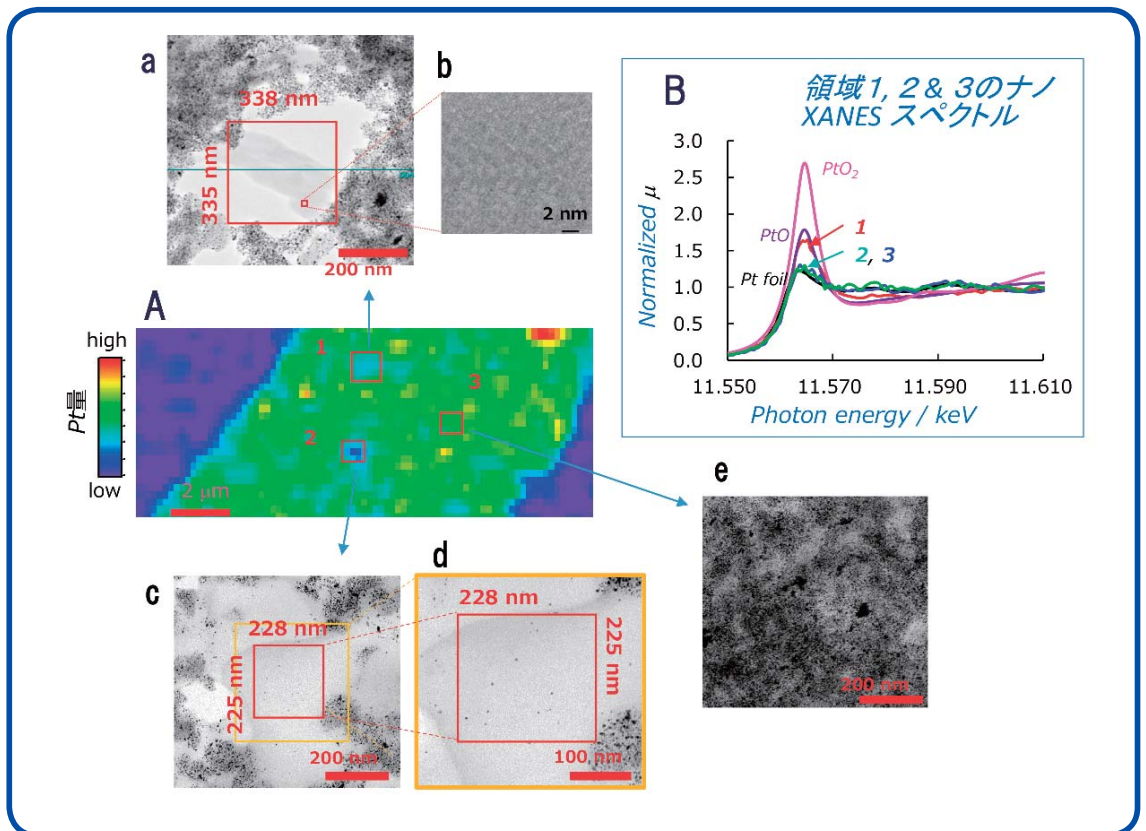
アドバンス理工株式会社





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Accelerated charging-discharging cycle of FAP-450. The yellow vertical lines mark the rebalancing action



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AGEXサイクルにより劣化したMEA-Bの飽和水蒸気大気圧 N_2 下のナノXAFS-STEM-EDS同視野イメージング。A：ナノXANESマッピング、B：領域1-3のナノXANESスペクトル（領域1：335 nm×338 nm（赤）、領域2：225 nm×228 nm（緑）、領域3：225 nm×228 nm（青）及びPt-foil（黒）、PtO（紫）とPtO₂（桃）参照試料のXANESスペクトル。A-e：ナノXANESマッピングの領域1-3それぞれに対応する同視野STEM/TEM像

Same-view of the nano-XAFS (A) and STEM/TEM (a, b, c, d, e) under humid N_2 atmosphere and normalized nano-XANES spectra (B) for the 335 nm×338 nm area 1 (red), the 225 nm×228 nm area 2 (green), and the 225 nm×228 nm area 3 (blue) and reference XANES spectra of Pt-foil (black), PtO (purple) and PtO₂ (pink)

The Critically Important Mission of the FCDIC

水素社会の実現に向けた FCDIC の極めて重要な役割

Dr. Mark Williams
Chairman,
Fuel Cell Seminar & Energy Exhibition
Program General Manager, AECOM



Energy and transportation are major world industries which are inextricably joined like intertwined vines. In the future hydrogen, solar, natural gas and other renewable fuels will dominate the fuels used for energy and transportation. Solar cars, battery vehicles, PHEV, hydrogen fuel cell vehicles, and natural gas vehicles, will dominate tomorrow's propulsion.

The major questions here are which chemical energy will be available and when will it be available and/or produced for the transportation and energy industries. It is important that this transition from current to future fuels be done in an organized, secure and peaceful fashion. These fuels in the future ultimately must be natural gas, hydrogen and battery/storage chemicals. Electrochemical technologies to convert energy from one form to another will be needed for both the transportation and energy industries. Major questions remain for infrastructure and storage of both natural gas and hydrogen.

Japan is a unique country which relies heavily on imported fuels for transportation. Japan has launched a daring new policy, which would change the country into a "hydrogen society." A hydrogen society literally means a society where citizens use hydrogen as their primary energy source produced from renewable energy and use little or no fossil fuels. Japan would be free from the reliance on imported energy for transportation if it could generate renewable fuels in Japan. It remains to be seen if this policy will be fully supported by the Japanese government. The FCDIC is a remarkable organization in that all these major questions can be discussed by its members through the FCDIC meetings and publications.

The Fuel Cell Seminar and Exhibition is proud to be a member. I wish all of us success in all of our endeavors.

The Journal of Fuel Cell Technology

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● The cover is
“Freiburg Solar Hydrogen Filling Station at Fraunhofer ISE”

(Courtesy of Fraunhofer ISE)

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