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Low Pt Anodes for Polymer Electrolyte Fuel Cells

Jack Left (1), Mike Middle (1,2), Peter Wright (2)

(1) Fuel Cells Forever, Inc.

123 Efficiency Street, CH-1543 Clean Town/Wonderland

(2) Faculty of Sciences and Technology

45 Sample Street, CH-8016 New Town/Wonderland

Tel.: +41-56-987-1234

Fax: +41-56-987-1235

[jsample@fastmail.com](mailto:jsample@fastmail.com)

Abstract

This is a sample text: The reduction of the Pt catalyst loading in Polymer Electrolyte Fuel Cells (PEFC) is a premise for a commercial introduction of fuel cell electric cars. In the state of the art, the Pt loading for the anode varies between 30 and 100 µgr/sqcm. In this work, low platinum loadings in the range of 2 to 25 µgr/sqcm were sputtered onto carbon cloth substrates that were used as PEFC anodes. Membrane electrode assemblies were prepared by hot pressing with Nafion 212 and commercial cathodes. We succeeded in reducing the Pt loading of PEFC down to 25 µgr/sqcm without significant loss of fuel cell performance compared to commercial electrodes 500 µgr/sqcm. Longevity tests at constant current densities showed nearby stable voltages for at least 1’000 hrs. ………

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