عنوان مقاله:

Monitoring of the Anode Dry out at High Current Censity in H2/O2 and H2/air PEMFC Stack

محل انتشار:

دومین همایش پیل سوختی ایران (سال: 1387)

تعداد صفحات اصل مقاله: 2

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خلاصه مقاله:

The polymer electrolyte fuel cell (PEFC) is of great interest in energy research because of its high efficiency, high power density, low pollution and low operating temperature [1, 2]. But they have to overcome some engineering and economic problems in order to be a commercial success. In particular, humidification is accompanied by energy loss. Hence, operation under optimal humidified conditions is of great advantage for improved energy conversion efficiency. However, it is considered that low humidified gas conditions accelerate the decay of the electrolyte membrane, which is a key material for the PEMFC and high humidified gas conditions causes electrodes flooding. The stability of the membrane is determined by its water content. Proper hydration of the membrane is critical for maintaining membrane conductivity and mechanical stability [3, 4]. In fact, the upper limit of the operating temperature of conventional PEMFCs using perfluorinated ionomers is dictated by the need to maintain the membrane water content. Therefore, .the relative humidity of fuel and oxidant gases influences the voltage performance and stability

کلمات کلیدی:

لینک ثابت مقاله در پایگاه سیویلیکا: