

عنوان مقاله:

Higher temperature or tolerant GDE? Novel strategy for increasing tolerance to CO in HT-PEMFC

محل انتشار:

پنجمین همایش هیدروژن و پیل سوختی (سال: 1399)

تعداد صفحات اصل مقاله: 5

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خلاصه مقاله:

The platinum nanoparticles were grown directly by electrodeposition process on electrochemically oxidized carbon paper (CP) and non-oxidized CP as the anode gas diffusion electrodes (GDEs) for the application in ABPBI-based high-temperature polymer. Results show that cathodic oxidation of CP has an effect on the CO tolerance of the anode GDE. This enhancement appears to originate from the functional oxygen groups on oxidized CP. It was also found that poisoning by 3% CO for oxidized cell at 140 °C and 160°C display an enhancement in the performance compared with non-oxidized electrode. The lowest power change in the presence of CO is 24% belong to oxidized cell at 160°C. Interestingly, performance of the oxidized fuel cell at 140°C has a similar resistance to carbon monoxide for non-oxidized electrode at 160 °C, which compensates for the increase in temperature

کلمات کلیدی:

Cathodic oxidation . Electrodeposition . Anode CO tolerance . Oxygen functional groups . High-temperature fuel cell

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