

Membrane-electrode assemblies of proton exchange membrane fuel cell prepared by electrospray deposition with ultra low Pt loadings

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The electrospray deposition (ESD) of platinum supported on carbon (Pt/C) particles has been used for the preparation of electrodes for proton exchange membrane fuel cell (PEMFC). Catalyst layers with platinum loading ranging from  $0.2\text{mg}_{\text{Pt}}/\text{cm}^2$  to  $0.025\text{mg}_{\text{Pt}}/\text{cm}^2$  and different Nafion<sup>®</sup> contents were obtained by ESD method. Morphological studies of the catalyst layers by scanning electron microscope (SEM) inspection showed fractal structures with a high dispersion of catalyst. In this paper, the morphology, SEM and IV-curve compared among the MEAs with Pt loading ranging from  $0.2 - 0.025 \text{ mg}_{\text{Pt}}/\text{cm}^2$ .