

Electrospray deposition of Catalyst layers with ultra-low Pt loadings for PEM fuel cells cathodes

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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 mg_{Pt}/cm² down to 0.025 mg_{Pt}/cm² and different Nafion® 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, IV-curve compared each platinum loading range 0.2 - 0.025 mg_{Pt}/cm².