

Electrochemical impedance measurement of cathode for direct methanol fuel cells

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Flooding in the cathode side is one of the main reasons that diminish performance of fuel cell, obstructing contact of oxygen to the catalyst surface. Cathode impedance spectra is generally reduced with an increase in the current density. Under in-situ Electrochemical Impedance Spectroscopy (EIS) measurement this phenomenon was also shown at a relatively low current density. However, in the higher current density, larger diameter of a capacitive circle appeared. In this study the behavior was assumed by water accumulation and was explained through the equivalent circuit model.