

Analysis of Parameters Variation Effect on PEM Fuel cell Static Model Operation

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Abstract

The aim of this work is to analysis parameters variation effect on PEM static model output voltage .Fuel cells designing parameters play an important role in their operation improvement .This paper has been shown the effects of several numerically simulated parameters such as temperature, pressure, cross section and Membrane thickness on PEM fuel cell operation. In this study we have been abbreviated anode and cathode pressures by fuel cell pressure. Simulation has been done under following conditions: temperature cell 298-353^oC , pressure 1.2-10 atm, cross section 0.016-0.05 m² . Voltage current curves have been shown in different cases of parameters variation. MATLAB software has been applied for PEM static model simulation.

Keywords: Voltage, Fuel cell, Static model