

Abstract :

Up to now, many researches have focused on the development of the power module in the Fuel cell vehicles (FCVs) and the components of these systems such as membranes, bipolar plates, and electrodes. However, our work in this study focuses on operating the integrated fuel cell power module system efficiently for various operating conditions such as pressure, relative humidity and operating modes. In our validation we have utilized PEMFC single cell, with active area geometry 16 cm² and of 120 cm². Some results obtained in our study shown significant performance indicators for PEMFC stack (composed of 2 cells and 4 cells in a series) at different humidification level