A study on the mass transfer through PEMFC gas diffusion layer

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ABSTRACT

The mass transfer through gas diffusion layer is crucial to the performance of a PEM fuel cell. In an operating fuel cell the reactant gas is transported to the catalyst layer and the product water moves in the opposite direction, this resulting in a complex mass transfer problem. The present research numerically investigates the mass transport of oxygen through the gas diffusion layer. Experiments are performed to validate the results of numerical simulations. Furthermore, the relationship between effective diffusion coefficient and bulk diffusion coefficient of reactant gas are also examined.

Keywords : Proton Exchange Membrane Fuel Cell、Gas Diffusion Layer、Mass Transport

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