

Modeling and control of MCFC system

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MCFC is modeled and control strategy is presented. Spatially distributed 2-D dynamic model of single cell direct internal reforming molten carbonate fuel cell(DIR-MCFC) has been developed as a numerical process. The numerical process is solved with techniques such as cubic spline collocation methods(CSCM) and employs quasi steady state assumptions for fast calculation. Using the numerical process, relations between controlled variable(CV) and manipulative variables(MV) are analyzed using singular value decomposition(SVD) and relative gain array(RGA). Through the analysis, control strategy is obtained.