

1-D Dynamic Modeling of High-Pressure Water electrolyser for Hydrogen Production

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A dynamic model of high pressure water electrolyzer has been developed. 1-dimensional cell model is formed in partial differential equations of mass balance, energy balance, and equations related to cell voltage and current density. Especially, effects of oxygen and hydrogen bubbles in the channel has been considered for more accurate results. Based on the modeling, distributions and dynamic response of variables are studied.