

## Modeling and simulation of the phenomena on an anode catalyst layer in PEMFC

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This research focuses on the phenomena occurring on an anode catalyst layer in PEMFC and it is simulated by CFD tools. PEMFC generates an electric energy by the electro-chemical reaction on both catalyst layers. At this time, several phenomena occur successively on a catalyst layer. First, reactants moving through the gas diffusion layer adsorb on Pt catalysts composing a catalyst layer, and a part of those desorbs or consumes by the electro-chemical reaction. Looking around the phenomena on an anode catalyst layer is the present research objective. In catalyst layer, Hydrogen absorbs on Pt-catalyst and absorbed hydrogen on the three-phase boundary of that divides into proton and electron. From this research we could account for the adsorption, desorption and electro-chemical reaction on an anode catalyst layer, and we could analyze the phenomena on catalyst layer more deeply than previous models.