Numerical analysis of proton exchange membrane fuel cell using multiphase-mixture model

이승주, 정치영[1], 이성철[1,*]
한양대학교; [1]한양대학교 화학공학과
(scyi@hanyang.ac.kr*)

The multiphase-mixture (M2) model of proton exchange membrane fuel cell was investigated based on computational fluid dynamics commercial package, FLUENT. Typically, the M2 model is clearly convenient by reducing two different governing equations into one governing equation and doesn't have to track down the phase interface. The presented model was validated with experimental data taken from literature and lab-experiment. The resulting water distribution was compared with conventional two fluid model. In addition, various modes of water transport was analyzed with the presented model.