Thermodynamic properties for Direct Methanol Fuel Cells (DMFC)

성동욱, 배영찬*
한양대학교
(ycbae@hanyang.ac.kr*)

We develop a new molecular thermodynamic model to describe cell voltage of polymeric electrolyte membrane. The model is based on modified double lattice theory (MDL) combining with Manning's counter ion condensation theory. The proposed model includes contribution of diffusion overpotential. This model allowed us to obtain activity..
Experimentally observed pH of polymer electrolyte membrane systems are interpreted by the proposed model. Quantitative description according to the proposed model is in good agreement with experimentally observed proton activities of Direct Methanol fuel cell systems.(DMFC)