Thermodynamic Modeling of SI Hydrogen Production System

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Sulfur-Iodine(SI) thermochemical hydrogen production cycle is regarded as one of the most promising candidate for alternatives among hydrogen production system. In this study, it is aimed to develop thermochemical model for Section III in the cycle. The proposed model composed of chemical equilibrium and physical phase equilibrium. Simultaneous solution of two equilibria was solved using a cubic equation of state (Peng-Robinson) model and electrolyte NRTL model. The effect of chemical equilibrium assumption and vapor phase nonideality was investigated in this study.