Development of new dissociation and thermodynamic model for sect 3 in S-I cycle

이범진, 강정원†, 박병흥[1]
고려대학교; [1]한국교통대학교
(jwkang@korea.ac.kr†)

Due to the lack of fossil fuels and environmental issues, hydrogen will eventually become the main energy resource for future generation. There are several types of hydrogen processes proposed by a number of scientists and chemical engineers. S-I cycle is proved to be the most promising thermochemical hydrogen process with respect to the energy saving and final yield of product. There have been several dissociation model to explain the behavior of HIx mixture in section 3, HI decomposition section, in SI cycle. However none of them completely predict the complicated behavior of electrolyte mixture, HIx (HI, Iodine, Water mixtures). Therefore, in this study, new dissociation model for HIx mixture has been proposed along with the regression of binary interaction parameters between molecules and ions for electrolyte NRTL model which is embedded in ASPEN PLUS simulation package.