CO_2 activation on the different phase of iron ores through redox reactions

정민혜, 배종욱†
성균관대학교
(finejw@skku.edu†)

The redox reaction kinetics of iron ores for the further application to chemical looping (CL) process has been developed to activate greenhouse gas CO2. Redox properties and kinetic parameters of three different phases of iron ores such as FeOOH, Fe3O4, and Fe2O3 were investigated using an isothermal method. From the isothermal experiments, the kinetics of iron ores for the oxidation by CO2 and for the reduction by hydrogen was well fitted through Jander equation. Simple Jander equation can properly describe the redox kinetics of iron ores, and the proposed kinetic model was found to be acceptable for describing the experimental data.