

Ignition Behaviour of Pulverized Coal Particle during Coal Combustion

Li Dongfang, Wu Zelin, Zhangjun, 김량균, 전충환*
부산대학교
(chjeon@pusan.ac.kr*)

As one of the primary fuel sources, oxy-fuel combustion of coal is actively being investigated because of the climate changing problem such like the emission of green house gases. In this paper research about the pulverized coal technology, which is widely used in both power-generating and iron-making processes, was studied to investigate the ignition behaviour of pulverized coal particles during coal combustion as changing the ambient oxygen concentration of the particle. The ignition phenomenon of the coal particles fed into a laminar flow reactor was imaged with a Integrated charged-coupled device (ICCD) camera. The ignition points were determined through the analysis of the images, and then the ignition delay times were able to be calculated. The experiment results show that a lower oxygen concentration increases the ignition delay time.