Modeling of An Entrained Flow Coal Gasifier

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In order to better understand the information of an entrained gasifier, a mathematical model is used to simulate the performance under various operating conditions. This model describes the physical and chemical processes occurring in an entrained coal gasifier. The important parameters profiles along the reactor were obtained by solving the material and energy balances and taking into consideration the gasification kinetics and correlative mechanisms of the gasifier. Parameter studies were made to provide a better understanding of reactor performance for various inlet feed conditions utilizing the model.