

Measurements of Radial Velocity in Fixed Fluidized Bed for Fischer-Tropsch Synthesis Using LDV

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Abstract : High temperature Fischer-Tropsch synthesis process use fixed fluidized bed as a reactor. In order to understand the flow behavior in the fluidized bed better, the research of how the radial velocity affect the entire flow field is necessary. Laser Doppler Velocimetry (LDV) was used to study the radial velocity distribution along the diameter direction of the cross-section of the particle in a fixed fluidized bed. The velocity in the cross-section is fluctuating within a small range. The direction of the speed is a random phenomenon. In addition to r/R is 1, the axial velocity are more than 6 times of the radial velocity, the radial velocity has little impact on the axial velocity in a fixed fluidized bed.

Keywords : Fischer-Tropsch synthesis, Fixed fluidized bed, LDV, Velocity

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