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喷嘴进料对催化裂化提升管流动行为的影响

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摘要 This paper studies the influence of feed injection on the hydrodynamic behavior of fluid catalytic cracking riser reactors. Experiments were conducted in a cold model of 186 mm ID with two oppositely inclined secondary air feed nozzles. The flow structure was determined by means of the axial static pressure measurements and local radial optic fiber probe measurements on different levels with emphasis on the sections downstream of the secondary injection. The measurements reveal that the secondary injection plays a crucial role on riser hydrodynamics. Just above the secondary injection, the flow and mixing are strongly affected, while below the secondary injection the effect is weak. The radial profile just downstream of secondary injection demonstrates wavy features. The effective region of secondary injection could be estimated by the axial pressure gradient profiles and/or the radial profiles of local solids velocity and density.

关键词 [fluid catalytic cracking](#) [riser reactor](#) [feed injection region](#) [flow structure](#)

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Influence of Feed Injection on Hydrodynamic Behavior in FCC Riser

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Abstract This paper studies the influence of feed injection on the hydrodynamic behavior of fluid catalytic cracking riser reactors. Experiments were conducted in a cold model of 186 mm ID with two oppositely inclined secondary air feed nozzles. The flow structure was determined by means of the axial static pressure measurements and local radial optic fiber probe measurements on different levels with emphasis on the sections downstream of the secondary injection. The measurements reveal that the secondary injection plays a crucial role on riser hydrodynamics. Just above the secondary injection, the flow and mixing are strongly affected, while below the secondary injection the effect is weak. The radial profile just downstream of secondary injection demonstrates wavy features. The effective region of secondary injection could be estimated by the axial pressure gradient profiles and/or the radial profiles of local solids velocity and density.

Key words [fluid catalytic cracking](#); [riser reactor](#); [feed injection region](#); [flow structure](#)

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