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The Relationship Between Hysteresis and Liquid Flow Distribution in Trickle Beds

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摘要 Experiments were conducted on a trickle bed with 0.283 m ID to elucidate the relationship between hysteretic phenomena and liquid distribution. The hysteresis of pressure drop and the variance of radial liquid distribution were observed simultaneously. Residence time distribution (RTD), holdup and mean residence time (RT) of liquid phase were also found to demonstrate hysteresis of the same nature. RTD, liquid holdup and mean RT calculated with a simple model from the distribution of liquid flow rate show characteristics consistent with the experimental data, suggesting that the hysteretic phenomena originate from the multiplicity and nonuniformity of liquid flow distribution.

关键词 [trickle bed](#) [liquid distribution](#) [hysteresis](#) [residence time distribution](#)

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Key words [trickle bed](#); [liquid distribution](#); [hysteresis](#); [residence time distribution](#)

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