

传递现象

## 滴流床反应器中发泡流体的流型转变

刘国柱, 王莅, 王亚权, 米镇涛

天津大学化工学院绿色合成与转化教育部重点实验室, 天津 300072

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摘要

关键词 [滴流床反应器](#) [流型](#) [发泡流体](#) [模拟](#)

分类号

## FLOW PATTERN TRANSITION OF FOAMING SYSTEM IN TRICKLE BED REACTORS

LIU Guozhu, WANG Li, WANG Yaquan, MI Zhentao

### Abstract

Anthraquinone working solutions used in hydrogen peroxide manufacture were selected as the test system to investigate the flow pattern transition behavior of foaming system in the trickle bed reactor (TBR) with the method of measurement and analysis of the instantaneous pressure drop fluctuations. The boundaries and the corresponding flow map for the foaming system were established for TBR packed with different size particles. It was found that the size of particles shows significant effect on the flow regime distributions. A theoretical model proposed by Cheng and Yuan and an empirical correlation by Bartelmus and Janecki were used to predict boundaries of the flow pattern transition for anthraquinone working solutions. Comparison between estimation and experimental results showed that the predicted boundaries of Cheng and Yuan theoretical model are consistent with the observations in the present work.

**Key words** [trickle bed reactor \(TBR\)](#) [flow pattern](#) [foaming system](#) [modeling](#)

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通讯作者 米镇涛 [zhtmi@tju.edu.cn](mailto:zhtmi@tju.edu.cn)

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