

SELECTED PAPERS FROM.....

精馏塔板液相流场三维模拟

刘伯潭, 刘春江

Distillation Laboratory of State Key Laboratories of Chemical Engineering, Tianjin University, Tianjin 300072, China

收稿日期 修回日期 网络版发布日期 接受日期

摘要 The liquid flow on a single-pass sieve distillation tray is simulated with a three-dimensional computational fluid dynamics (CFD) program with the K- ϵ turbulence model. In the model, a source term SM_i is formulated in the Navier-Stokes equations to represent the interfacial momentum transfer and another term Sc is added to the mass transfer equation as the source of interfacial mass transfer. The simulation provides the detailed information of the three-dimensional distribution of liquid velocity on the tray, the circulation area and the concentration profile along the height of liquid layer.

关键词 [computational fluid dynamics](#) [distillation](#) [circulation area](#) [sieve tray](#)

分类号

DOI:

Three Dimensional Simulation of Liquid Flow on Distillation Tray

LIU Botan, LIU Chunjiang

Distillation Laboratory of State Key Laboratories of Chemical Engineering, Tianjin University, Tianjin 300072, China

Received Revised Online Accepted

Abstract The liquid flow on a single-pass sieve distillation tray is simulated with a three-dimensional computational fluid dynamics (CFD) program with the K- ϵ turbulence model. In the model, a source term SM_i is formulated in the Navier-Stokes equations to represent the interfacial momentum transfer and another term Sc is added to the mass transfer equation as the source of interfacial mass transfer. The simulation provides the detailed information of the three-dimensional distribution of liquid velocity on the tray, the circulation area and the concentration profile along the height of liquid layer.

Key words [computational fluid dynamics](#); [distillation](#); [circulation area](#); [sieve tray](#)

通讯作者:

刘伯潭 cjliu@tju.edu.cn

作者个人主页: 刘伯潭; 刘春江

扩展功能

本文信息

▶ [Supporting info](#)

▶ [PDF \(1273KB\)](#)

▶ [\[HTML全文\] \(0KB\)](#)

▶ [参考文献](#)

服务与反馈

▶ [把本文推荐给朋友](#)

▶ [加入我的书架](#)

▶ [加入引用管理器](#)

▶ [引用本文](#)

▶ [Email Alert](#)

▶ [文章反馈](#)

▶ [浏览反馈信息](#)

相关信息

▶ 本刊中 包含 “[computational fluid dynamics](#)” 的 [相关文章](#)

▶ 本文作者相关文章

· [刘伯潭](#)

· [刘春江](#)