

反应堆工程

矩形通道中两相流变密度模型空泡份额计算

刘峰, 陈文振, 罗磊

海军工程大学 核能科学与工程系, 湖北 武汉 430033

收稿日期 2005-10-24 修回日期 2006-1-19 网络版发布日期: 2007-3-25

摘要 基于Bankoff的圆管内和无限长平板间两相流变密度模型空泡份额计算式的推导, 结合流体在管道中的流场分布特征, 建立了矩形通道中两相流流场分布规律方程, 导出了变密度模型在矩形通道中空泡份额的计算式, 并对3种通道计算的结果进行了对比分析。计算结果与原有Bankoff模型符合得很好。

关键词 [两相流](#) [变密度模型](#) [空泡份额](#)

分类号 [TL334](#)

Calculation Method of Void Fraction About Variable-Density Single-Fluid Model for Two-Phase Flow in Rectangular Channel

LIU Feng, CHEN Wen-zhen, LUO Lei

Department of Nuclear Energy Science and Engineering,
Naval University of Engineering, Wuhan 430033, China

Abstract Based on the calculation method of void fraction of Bankoff's variable-density single-fluid model for two-phase flow inside circular channel and parallel wall-surfaces channel, and the utilization of hydrodynamics method, the equation of velocity field of two-phase flow inside rectangular channel was established, and the calculation formula of void fraction about variable-density single fluid model for two-phase flow in rectangular channel was deduced. The examples of numerical calculation were given, and the calculation results were compared and analysed for three kinds of channels. It is seen that the calculation result is in agreement well with the former Bankoff model.

Key words [two-phase flow](#) [variable-density single-fluid model](#) [void fraction](#)

DOI

通讯作者

扩展功能

本文信息

- ▶ [Supporting info](#)
- ▶ [\[PDF全文\]\(128KB\)](#)
- ▶ [\[HTML全文\]\(0KB\)](#)
- ▶ [参考文献](#)

服务与反馈

- ▶ [把本文推荐给朋友](#)
- ▶ [文章反馈](#)
- ▶ [浏览反馈信息](#)

相关信息

- ▶ [本刊中包含“两相流”的相关文章](#)
- ▶ 本文作者相关文章

- [刘峰](#)
- [陈文振](#)
- [罗磊](#)