

反应堆工程

## 密度锁内流体稳态传热模型的建立

王升飞<sup>1</sup>; 阎昌琪<sup>1</sup>; 谷海峰<sup>1</sup>; 方红宇<sup>2</sup>

1.哈尔滨工程大学核科学与技术学院, 黑龙江哈尔滨150001 2.中国核动力研究设计院, 四川成都610041

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**摘要** 根据温度场的特点, 将密度锁分为混合区、导热区和恒温区, 并分别进行建模。用该模型对密度锁进行稳态传热计算, 并与实验结果进行对比。结果表明: 本工作建立的稳态传热模型能较好地计算出密度锁内的温度场。研究建立了密度锁的热损失量计算式, 并对热损失量最小值的情况进行了讨论。

**关键词** [密度锁](#) [稳态](#) [传热模型](#)

分类号

## Development of Steady-State Heat Transfer Model in Density Lock

WANG Sheng-fei<sup>1</sup>; YAN Chang-qi<sup>1</sup>; GU Hai-feng<sup>1</sup>; FANG Hong-yu<sup>2</sup>

1. College of Nuclear Science and Technology, Harbin Engineering University, Harbin 150001, China; 2. Nuclear Power Institute of China, Chengdu 610041, China

**Abstract** According to the characteristic of temperature field, density lock can be divided into mixing zone, conductive zone and constant zone, and heat transfer model was established in each zone. The steady-state heat transfer models were evaluated by comparing with the experimental results. It is showed that the temperature field in density lock can be well predicted by the heat transfer model at steady-state. The correlation for calculating the heat loss in density lock was deduced. The minimization of heat loss was also discussed in the paper.

**Key words** [density lock](#) [steady-state](#) [heat transfer model](#)

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