

## 5MW低温核供热试验堆及其安全特性

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**摘要** 清华大学核能技术研究所开发的5MW低温核供热试验堆已建成运行。文章简要介绍了该堆的主要设计特性,包括一体化、自稳压和双层壳的结构设计,世界上首次采用的控制棒水力传动系统,自然循环的冷却方式以及防止放射性物质泄入热网的措施等。这些设计措施大大提高了该堆的固有安全性,本文给出该堆的主要安全性能。

**关键词** [低温供热堆](#) [一体化](#) [自然循环](#) [固有安全性](#)

分类号

## 5 MW EXPERIMENTAL LOW TEMPERATURE NUCLEAR HEATING REACTOR AND ITS SAFETY FEATURES

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**Abstract** 5 MW Experimental low temperature nuclear heating reactor developed by the Institute of Nuclear Energy Technology, Tsinghua University, has been put into operation. This paper describes briefly the main design characteristics, including the integrated arrangement, dual pressure-containing vessel structure, hydraulic control rod drive system used in reactor structures first time in the world, natural circulation and the design provisions for protecting heating grid from radioactive contamination. These design measures greatly enhance the inherent safety features, which are also presented in the paper.

**Key words** [Low temperature heating reactor](#) [Integrated arrangement](#) [Natural circulation](#)  
[Inherent safety features](#)

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