核废物自热升温过程数学模型研究

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摘要　　获得了核衰变热源圆柱体传热方程第三类边值问题的解释式解。进行了各种工艺条件对升温过程影响的理论计算研究,得到了一些有价值的结果。为现场工艺设计和预测提供了必要的理论根据。

关键词　核废物　温升过程　数学模型

分类号

STUDY ON THE MATHEMATIC MODEL FOR THE TEMPERATURE RISING PROCESS OF NUCLEAR WASTE CAUSED BY SELF-HEAT

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Abstract An analytical formula is derived as one of the solutions of the cylinder heattransfer equation under the third kind of initial and boundary conditions. Thecylinedr is a source of heat from nuclear decay. A theoretical calculation isperformed for the effect of various technical parameters on the temperature risingprocess. Some valuable results are obtained. The analytical formula and those resultsprovides a theoretical basis for on-site technical prediction and design.

Key words Nuclear waste　Temperature rising process　Mathematic model

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