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反应堆工程

优化的灰色模型在核动力系统管道腐蚀速率预测中的应用

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摘要 针对灰色理论模型GM(1,1) 预测时误差较大，提出了一种新的预测方法——优化灰色理论预测方法。并把该方法应用到核动力系统管道腐蚀速率的预测。通过与多种预测方法的实际比较证明，该方法是正确、有效的。同时，通过对管道腐蚀速率的预测，对核动力系统管道在复杂条件下的维修和保养提供了有力的依据。

关键词 优化的灰色理论；腐蚀速率；核动力系统；预测

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Prediction on Corrosion Rate of Pipe in Nuclear Power System Based on Optimized Grey Theory

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Abstract For the prediction of corrosion rate of pipe in nuclear power system, the prediction error from the grey theory is greater, so a new method, optimized grey theory was presented in the paper. A comparison among predicted results from present and other methods was carried out, and it is seem that optimized grey theory is correct and effective for the prediction of corrosion rate of pipe in nuclear power system, and it provides a fundamental basis for the maintenance of pipe in nuclear power system.

Key words optimized grey theory _ corrosion rate _ nuclear power system _ prediction

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