

研究简报

氚污染部件干法去污技术

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摘要 针对核退役工程中存在的大量含氚废物处理问题, 利用设计组装的干法去污处理装置对氚污染的金属进行了加热、紫外线、臭氧去污研究。结果表明, 升高温度可明显提高去污效果; 220 °C用365 nm紫外线照射3 h对不锈钢的表面去污效率可达99%; 臭氧与加热联合作用更有利于提高去污效率, 220 °C时去污3 h, 臭氧对不锈钢、铝、黄铜的去污效率可达95%以上; 而去污完毕经放置后, 金属的氚表面活度会有所增加。

关键词 [氚](#); [去污](#); [紫外线](#); [臭氧](#); [加热](#)

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Dry Decontamination for Tritiated Wastes

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Abstract

To aim at decontamination of tritiated wastes, we have developed and fabricated a dry tritium decontamination system,

which is designed to reduce tritium surface contamination of various alloy by UV, ozone and heating. The result indicates

that the elevation of temperature can obviously improve decontamination effect. With 3 h irradiation by 365 nm UV at 220 °C,

it has a decontamination rate of 99% to stainless steel surface. Ozone can more obviously improve decontamination effect

when metal was heated. Ozone has a decontamination effect beyond 95% to stainless steel, aluminum and brass at 220 °C.

Tritium surface concentration of metal has a little increase after decontamination.

Key words [tritium](#) _ [decontamination](#) _ [UV](#) _ [ozone](#) _ [heating](#)

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