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物理

一种通过渐进拟合外推计算α放射性比值的方法

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摘要 根据α能谱中常见的^{238}Pu与^{239}Pu+^{240}Pu能峰难以完全分开且^{238}Pu拖尾较为严重的情况，采用一种渐进拟合外推的解谱方法来计算各能峰的峰面积，进而计算α放射性比值。渐进拟合外推方法基于峰拖尾计数逐渐减少时整个能峰的面积越来越逼近能峰面积真值这一总趋势特点，进行拟合外推而得到能峰的总面积。在30多个能谱中的使用结果表明，这一方法是准确和可靠的。

关键词 α放射性比值 拟合外推 能谱分析

分类号

A Fitting Extrapolation Method for Calculation of α Radioactive Ratio

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Abstract According to the overlap of ^{238}Pu and ^{239}Pu+^{240}Pu in alpha spectrum, a fitting extrapolation method was introduced to analyze peak counts in the alpha energy spectrum for calculation of two-peak radioactivity. The method is based on the tailed trend of main peak in spectrum that the counts in the tailed channels decrease with the decrease of channel number. The total counts of main peak were obtained by fitting extrapolation according to the sum counts of main peak with the change of the tailed channels. This method is simple and applicable, and the results in more than 30 alpha energy spectra in our work are with accuracy.

Key words α radioactive ratio _ fitting extrapolation _ spectrum analysis

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