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中子反照实验的理论模拟

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摘要 中子反照实验的目的是检验和标定工程设计使用的程序、参数和方法。本工作采用蒙特卡罗粒子输运程序模拟中子反照实验。模拟结果表明，铁球壳外表面各测点处的中子活化反应率及反照系数在实验数据不确定度范围内符合。

关键词 中子反照实验 中子活化反应率 反照系数

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Theoretical Simulation of Neutron Albedo Experiment

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Abstract The purpose of neutron albedo experiment is to check and scale the programs, parame ters and methods used in engineering design. Monte-Carlo particle transport code is used to simul ate the experiment, and the neutron activation rate and albedo coefficient of each detecting poin t on iron spherical shell's outer surface were obtained. It is proved that the theoretical results are i n good agreement with the experiment data within the range of data's uncertainty.

Key words neutron albedo experiment _ neutron activation rate _ coefficient of albedo

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