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150MeV加速器驱动的反应堆系统固态金属靶优化研究

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摘要 对150MeV加速器驱动的反应堆系统的固态靶进行了优化,就靶的几何设计、靶中泄漏中子产额、泄漏中子能谱及靶中能量沉积问题进行了研究。提出了钨饼与水组成的组合靶的概念,在中子产额影响较小的情况下,较好地解决了固态靶散热问题。

关键词 [固态散裂靶](#) [加速器驱动的反应堆系统](#) [能量沉积](#) [中子产额](#)

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Study on Optimization of Solid Spallation Target in 150 MeV Accelerator-driven Reactor System

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Abstract Study on the optimization of solid spallation target in accelerator-driven reactor system are carried out. The geometry of the solid target is optimized. The leaked neutron yield of this optimized target, the leaked neutron spectrum and energy deposition in target are studied. A target assembly consisting of tungsten disks and water layers is proposed in the present work. The problem of large energy deposition in solid target is solved without decreasing the leakage neutron production.

Key words [solid spallation target](#) [accelerator-driven reactor system](#) [energy deposition](#) [neutron yield](#)

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