

$\sim 3\text{He}$ 球形正比计数器热中子探测效率研究

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摘要 导出了球形计数器中子探测效率与其结构参数的关系。计算和测量了 $\sim 3\text{He}$ 球形正比计数器对一已知温度麦克斯韦谱中子的探测效率,计算值与实验值在实验误差以内相符。

关键词 [~3He](#) [球形计数器](#) [结构参数](#) [热中子](#) [探测效率](#)

分类号

STUDY OF THERMAL NEUTRON DETECTION EFFICIENCY OF $\sim 3\text{He}$ SPHERICAL PROPORTIONAL COUNTER

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Abstract The relations between the neutron detection efficiency of the spherical counter and its structural parameter are deduced. The detection efficiencies of the $\sim 3\text{He}$ spherical proportional counters for the Maxwell neutrons spectrum, whose temperature is known, are calculated and measured. The calculated values are consistent with the measured values in the experimental error.

Key words [~3He](#) [Spherical counter](#) [Structural parameter](#) [Thermal neutron Detection efficiency](#)

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