

## 高浓铀重水零功率堆中子温度和超热指标的测定

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**摘要** <正> 一、引言 反应堆的中子温度是重要的能谱参数,它基本上反映了反应堆热谱的特征。知道了中子温度,就能更精确地确定热群平均截面。测量中子温度的方法较多,归纳起来有危险系数法、积分法、微分法和探测片的夹心法等。在积分技术中,可测量 $^{239}\text{Pu}$ 与 $^{235}\text{U}$ 的裂变碎片的活性比,也可测量 $^{176}\text{Lu}$ 与 $^{55}\text{Mn}$

关键词 [高浓铀](#) [重水](#) [零功率堆](#) [中子温度](#) [超热指标](#)

分类号

## MEASUREMENTS OF NEUTRON TEMPERATURE AND EPITHERMAL INDEX IN HIGH ENRICHED URANIUM HEAVY WATER ZERO POWER REACTOR

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**Abstract** In the heavy water zero power reactor, the neutron temperature and epithermal index under different lattice arrangements and fine distribution of both parameters under one of those arrangements were measured with method of "pair foils" of  $^{176}\text{Lu}$ - $^{164}\text{Dy}$  and  $^{115}\text{In}$ - $^{55}\text{Mn}$ . The experimental results were compared with results obtained with "cadmium radio method". The agreement between them is satisfactory. The thermal column of swimming pool reactor is used as thermal neutron standard field.

**Key words** [High enriched uranium](#) [Heavy water](#) [Zero power reactor](#) [Neutron temperature](#) [Epithermal index](#)

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