

利用大能量大功率的光激光器产生中子的建议

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摘要 文章提出了用光激光方法产生中子的具体建议,叙述了以氘化铀作靶较为有利的理由,并且估计了入射光能 E ,聚焦范围 r ,与中子产额 N 的关系。还叙述了氘化铀靶应该怎样制备;如何用实验方法验证有否中子的存在;验证有否 X 光的存在,以及讨论了如何深入到定量的测量。最后还建议利用化学药品代替电容器,以使产生中子的整个装置轻小易携。

关键词 [能量](#) [功率](#) [光激光器](#) [中子](#)

分类号

A PROPOSAL OF USING HIGH ENERGY AND HIGH POWER LASER TO PRODUCE NEUTRONS

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Abstract In this paper a method by using the laser to produce neutrons is proposed. The advantages of using UD_3 as targets are described and the relation between the neutron yield N , The energy E and focusing radius r_0 of the incident light is given. The method of preparation of UD_3 target and the experimental method of verification of the existence of neutrons and X-rays are described. The quantitative measurement is discussed in detail too. Finally, It is proposed that chemicals can be used to replace capacitors to make a compact portable neutron source.

Key words [Energy](#) [Power](#) [Laser](#) [Neutron](#)

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