

研究简报

^{241}Am -Be中子源快中子成像研究

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摘要 中子成像是一种与X射线成像互补的无伤探测技术。快中子比热中子等低能中子具有更强的穿透力而适合更厚材料的检测。但是快中子难于探测使得快中子成像研究直到最近几年才受到人们的重视。同位素和加速器中子源适合发展可移动中子成像无伤检测系统, 而且同位素中子源还有发展便携式无伤探测系统的潜能。本文介绍作者利用同位素中子源 ^{241}Am -Be开展快中子成像研究的初步结果。

关键词 [\$^{241}\text{Am}\$ -Be中子源](#) [快中子成像](#) [无损检测](#)

分类号

Fast Neutron Imaging Using ^{241}Am -Be Neutron Source

Abstract Neutron imaging is a powerful non-destructive test technique, which is the complement to X-ray imaging. Compared with the lower energy neutrons such as thermal neutron, fast neutron is fit for detecting thicker samples due to having higher penetration. Unfortunately, fast neutron imaging is not paid enough attention to until recent year because of difficult detection. Isotope and a ccelerator neutron sources are both suitable for developing movable neutron non-invasion detective systems. Especially isotope neutron source has potential of developing handy detective system s. In this paper, the authors describe some of primary results of fast neutron imaging using ^{241}Am -Be neutron source.

Key words [\$^{241}\text{Am}\$ -Be neutron source](#) [fast neutron imaging](#) [non-destructive test](#)

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