



# 2012

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## Abstract

### High-Energy Neutron Imaging Development at LLNL\*

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LLNL is currently engaged in the development of high-energy (10 MeV) neutron imaging technology to complement existing x-ray diagnostic tools in nuclear stockpile stewardship applications. Our goal is to develop and deploy a nonintrusive imaging system capable of detecting cubic-mm-scale voids, cracks or other significant structural defects in heavily-shielded low-Z materials within nuclear device components. The final production-line system will be relatively compact (suitable for use in existing facilities within the DOE complex) and capable of acquiring both radiographic and tomographic (CT) images. In this talk, we will show results from neutron imaging "proof-of-principle" experiments conducted at the Ohio University Accelerator Laboratory (OUAL) in Athens, OH and provide a brief overview of the hardware associated with the proposed system.

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