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ABSTRACT - INMM ANNUAL MEETING (Macintosh - Microsoft Word)

WASTE CHARACTERIZATION ACTIVITIES AT THE LAWRENCE LIVERMORE NATIONAL LABORATORY*

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Radioactive and hazardous wastes are generated at many national laboratories, military sites, fuel fabrication and enrichment plants, reactors, and many other facilities. At all of these sites, wastes must be separated, categorized, possibly treated, and packed into containers for shipment to waste-storage or disposal sites. Prior to treatment, storage or, shipment, the containers must be characterized to determine the ultimate disposition of the contained waste. Comprehensive and accurate nondestructive evaluation (NDE) and nondestructive assay (NDA) methods can be used to characterize most waste containers in a safe and cost-effective manner without opening them. We are investigating and developing the application of x-ray NDE and gamma-ray NDA methods to nonintrusively characterize waste containers. We are using x-ray NDE methods to determine whether they can be used to identify hazardous and non-conforming materials. A gamma-ray NDA method is used to identify the radioactive source(s) within a container and to accurately quantify it's strength. We will describe both the NDE and NDA systems developed at LLNL and present results.

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