

University of Notre Dame
College of Science
Department of Physics

NUCLEAR SEMINAR

The use of Nondestructive Assay (NDA) Technologies in support of Nuclear Safeguards

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Monday, November 22, 2010 4:00 p.m. NSH 124
(Refreshments will be served prior to the seminar in 124 NSH)

One of the key components of a nuclear safeguards program is the ability to independently characterize and quantify Special Nuclear Materials (SNM) through the use of Nondestructive Assay (NDA) measurement techniques. NDA measurements are performed to determine specific properties of nuclear material bearing items without opening the container or altering the physical or chemical state of the contained nuclear material. These measurements generally involve the detection and analysis of radiation induced or spontaneously emitted from the nuclear material bearing item to determine the isotopic composition and/or the nuclear material mass of an item. As the worldwide usage and development of nuclear power continues to increase, there is a constant demand for developing new and improved detection capabilities for measuring SNM. In this talk, I will provide a short overview on the science and technology associated with the NDA measurement techniques that are currently used in safeguards, as well as provide an outlook on new or improved techniques that are under development. Examples of the usage of these techniques in real world safeguards applications will also be discussed.

ALL INTERESTED PERSONS ARE CORDIALLY INVITED TO ATTEND