Radiation Physics Research at Georgia Tech

Professor Nolan Hertel, Georgia Tech
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Recent research by the speaker and his graduate student research team will be presented. All the projects involve measurements complemented by simulations to direct the measurements, extend their utility or lend additional insight into instrument responses. The talk will include results from the testing of a prototype target/filter/reflector assembly designed for neutron-capture augmentation of the dose from the fast neutrons at the Fermilab Neutron Therapy Facility; measurement of spallation products for 600 and 800-MeV protons on heavy metal targets; testing and simulations of handheld instruments for use in triaging the internal contamination of RDD victims; and the simulation and unfolding of portal monitor pulse-height spectra in order to provide energy spectra and enhance isotope identification.

Biographical Sketch

Dr. Nolan Hertel is a Professor of Nuclear and Radiological Engineering and a Senior Fellow in the Sam Nunn Security Program at Georgia Tech. He joined the Georgia Tech faculty in 1993 after being on the faculty at the University of Texas at Austin for 14 years. He received his BS and MS in Nuclear Engineering from Texas A&M University and his PhD from the University of Illinois. Dr. Hertel's research interests are concentrated in radiation detection and measurements, instrument simulation, radiation shielding and dosimetry. In addition he has performed radiological assessments and benchmark neutron integral experiments to test nuclear data. He currently is a member of the Board of Directors of the Health Physics Society and the 2nd Vice-President of the Council on Ionizing Radiation Measurements and Standards. He was named the Faculty of the Year in 2006 by the Graduate Student Government Association at Georgia Tech.