

UNIVERSITY OF NOTRE DAME
DEPARTMENT OF PHYSICS

NUCLEAR SEMINAR

Monday, February 6

Gamma-ray and electron spectroscopy at TRIUMF-ISAC

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The Gamma-Ray Spectroscopy at ISAC group operates the GRIFFIN and TIGRESS HPGe arrays in pursuit of a variety of nuclear structure, nuclear astrophysics, and fundamental symmetries investigations at TRIUMF's Isotope Separator and Accelerator (ISAC) ISOL radioactive beam facility.

The GRIFFIN spectrometer provides unique opportunities in decay spectroscopy research with stopped radioactive beams. The HPGe array is complimented by a powerful suite of ancillary detector sub-systems that includes plastic-scintillators for beta tagging, LN₂-cooled Si(Li) detectors for conversion electron measurements and an array of eight LaBr₃ scintillators for fast-timing measurements. In addition, GRIFFIN will couple to the DESCANT array of neutron-detectors for beta-delayed neutron emission studies with exotic neutron-rich beams.

The TIGRESS spectrometer is used for studies with accelerated radioactive beams and is operated in conjunction with a range of particle detector sub-systems. The BAMBINO and SHARC silicon arrays are ideally suited to study Coulomb excitation and transfer reactions. A plunger device has recently been commissioned for the measurement of excited state lifetimes. The SPICE detector for in-beam internal conversion electron spectroscopy has been developed. The future EMMA recoil mass analyzer will also be coupled with TIGRESS.

An overview of the experimental equipment will be given through detailed examples of recent results in studies of nuclear shell structure, deformation and collectivity, and shape coexistence.

4 pm – 5 pm
Nuclear Science
Laboratory
124 Nieuwland
Science Hall

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All interested  
persons are  
cordially invited  
to attend

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Refreshments will be
served prior to the
seminar in room 124