

TEL: 225-578-2261
FAX: 225-578-5855
<http://www.phys.lsu.edu>

202 NICHOLSON HALL
Louisiana State University
Baton Rouge, Louisiana 70803-4001

WEEKLY CALENDAR

January 31, 2011

Departmental Colloquium

Thursday, 3:40 PM, February 3, 2011
109 Nicholson Hall

"Experimental Methods in Nuclear Astrophysics"

Ulrike Hager

Colorado School of Mines

Host: Jeffery Blackmon

• Refreshments served at 3:15 PM in 232 (Library) Nicholson Hall •

Nuclear astrophysics aims to explain the origin and abundances of the elements observed in the universe today. Various nuclear input data such as reaction rates and nuclear masses are required for the understanding and modelling of stellar evolution. Two different experimental approaches will be discussed in the context of the various stages of nuclear burning in a star: Determining reaction cross sections with the recoil separator DRAGON located at TRIUMF, Vancouver, and measuring nuclear masses with the JYFLTRAP Penning trap in Jyväskylä, Finland.

Special Theory Seminar

Monday, 3:40 PM, January 31, 2011
435 Nicholson Hall

"Coupling coefficients for general subgroup chains"

Mark A. Caprio

University of Notre Dame

Host: Jerry Draayer

The fundamental quantities underlying quantum mechanical calculations within a symmetry framework are the coupling coefficients, or generalized Clebsch-Gordan coefficients, of the symmetry group. The method of infinitesimal generators ("Racah's method") can be broadly and systematically formulated as a method applicable to the calculation of reduced coupling coefficients for a generic subgroup chain, provided the reduced matrix elements of the generators of symmetry group and the recoupling coefficients of its subgroup are known. In this talk, the method will be outlined, using the subgroup chains of $SO(5)$ as an example. Its applicability to problems in nuclear structure physics will be discussed.
