PHYSICS AND ASTRONOMY
COLLOQUIUM

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"Frontiers in Low-Energy Nuclear Physics"

Abstract

Understanding nuclei is a quantum many-body problem of incredible richness and diversity and studies of nuclei address some of the great challenges that are common throughout modern science. Nuclear structure research strives to build a unified and comprehensive microscopic framework in which bulk nuclear properties, nuclear excitations, and nuclear reactions can all be described. A new and exciting focus in this endeavor lies in the description of exotic and short-lived nuclei. The extreme proton-to-neutron asymmetry of these nuclei isolates and amplifies important features of nuclear many-body open quantum systems.

In this talk, experimental and theoretical advances in physics with nuclei will be reviewed in the context of the main scientific questions. Particular attention will be given to the science of rare isotopes and to theoretical studies of nuclei at the eve of extreme-scale computing.

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Wednesday, November 19, 2014
3:30 p.m.
Bob Wright Centre
Room A104