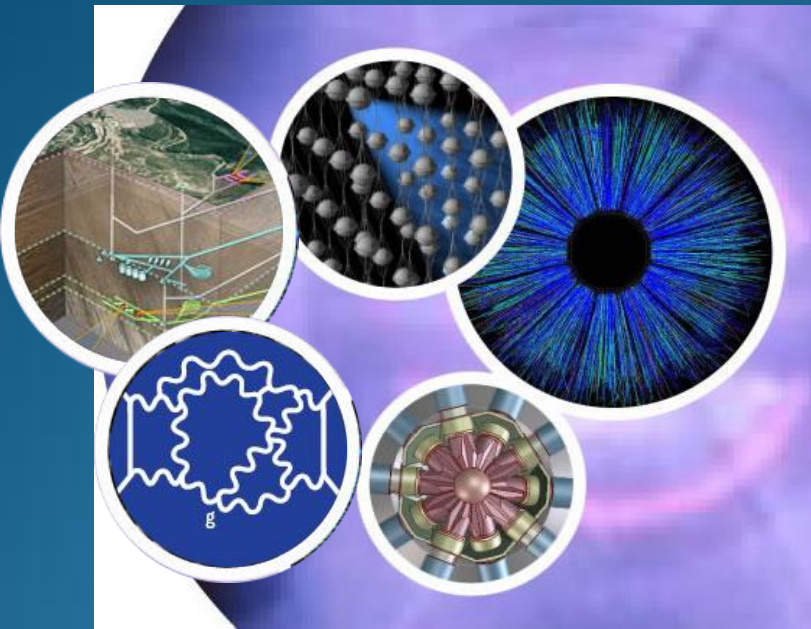


Nuclear Science Division Colloquium

Understanding the universe , one rare isotope at a time



Dr. Jens Dilling
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University of BC

Wednesday
April 06, 2011
11:00 am

Bldg. 50-Auditorium

Abstract: Many of the remaining big questions in understanding the universe, such as how and where the chemical elements in the universe are created, the life and death of stars, or the nature of neutrinos are intimately related to our fundamental understanding of the atomic nucleus. Progress in nuclear theory as well as the advent of rare-isotope beam facilities are key ingredient to getting closer to answering these questions. One of the premier facility for rare isotopes is the ISAC complex at TRIUMF, Vancouver. We have developed recently very sensitive and fast methods using ion trap techniques at TITAN (TRIUMF's Ion Trap of Atomic and Nuclear science). Using this, we are able to probe into the world of so-called nuclear halos. Teetering on the edge of nuclear stability, the properties of halo nuclei have long been recognized as one of the most stringent tests of our understanding of the strong force. Nuclear halos are an exotic form of nuclear matter that continues to defy the considerable scientific efforts focused upon them in the last two decades. In this talk I will report on these measurements and how they relate to answering the big questions.



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