physics & astronomy

university of manitoba

colloquia

Graduate Students' Colloquia

Robert Gleisinger, Michael Harder & Nicholas Macsai
Department of Physics & Astronomy
University of Manitoba

Title: *Searching for nucleus obscuration in ten nearby low-luminosity radio galaxies: A Markov-chain Monte Carlo analysis of infrared spectra*
Speaker: Robert Gleisinger
Abstract: Active galactic nuclei often outshine all of their host galaxy's stars combined and are powered by accretion of matter onto a supermassive black hole. Astronomers have found a vast array of different types of active galactic nuclei and have proposed unification models to explain the diversity with a single type of object; in the preferred model an accretion disk is obscured from edge-on viewing by a large torus made of discrete dusty clouds. We have used Markov-Chain Monte Carlo fitting algorithms to perform a wide-band infrared spectroscopic analysis of ten nearby low-luminosity active galactic nuclei in order to test this model. We find no evidence of this torus in nine of the ten galaxies in our sample.

Title: *Cavity Spintronics*
Speaker: Michael Harder
Abstract: Cavity spintronics is an emerging research field focussed on strong spin-photon coupling in condensed matter systems. Around 2014 experimental studies first revealed hybridization between ferromagnets and microwave cavity photons, intriguing both the spintronics and quantum information communities. In the 4 years that have followed a variety of new physics and exciting applications have been discovered. In this talk I will summarize the key contributions we have made to this developing field during the course of my PhD studies.

Title: *Progress in Proton Beam Characterization and Detector Testing for the Neutron Beta Decay(Nab) Experiment*
Speaker: Nicholas Macsai
Abstract: The Nab neutron beta decay experiment at the Spallation Neutron Source(SNS) at Oak Ridge National Laboratory will make precise measurements of neutron beta decay parameters, 'a' the electron-neutrino correlation and 'b' the Fierz interference parameter. The Nab experiment will use large area segmented silicon detectors which are to be tested at the Manitoba II proton source at the University of Manitoba. In this talk we will present new measurements taken with a large area phosphor screen detector which confirm beam requirements for the Nab detector testing.

Friday

March 16, 2018
3:30 pm, 330 Allen Building

*Coffee & Snacks will be served **prior to the talk**, at 3:00 pm, in 316 Allen Building (Coffee Room).*
*Please join us for **follow-up discussion**, at 4:45 pm, in 316 Allen Building (Coffee Room).*