

# The beta-decay of ${}^6\text{He}$ : a sensitive window to search for physics beyond the standard model

Wednesday

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4 P.M.

Rm 118 NSH

Prof. Oscar Naviliat-Cuncic  
NSCL, Michigan State University

The simplicity of the Gamow-Teller beta-decay of  ${}^6\text{He}$  has attracted considerable experimental and theoretical attention in the past few years. Precision correlation measurements in this allowed transition have motivated the production of high intensity and high purity sources and beams at several facilities around the world. The main purpose of such measurements is to search for new physics that would manifest itself through phenomenological tensor coupling contributions to the weak interaction. New measurement techniques, including the detection of recoiling ions in ion and atom traps, have been developed in order to make the most efficient use of the available intensities and to reduce instrumental systematic effects.

This colloquium will first present the results and the status of a pioneering experiment, using ions confined in a Paul trap, for the measurement of the beta-neutrino angular correlation in the decay of  ${}^6\text{He}$ . The seminar will then describe current additional measurements for a precise description of the beta spectrum shape as well as possible new prospects aiming at new levels of sensitivity in the search for phenomenological exotic tensor couplings in  ${}^6\text{He}$  decay.

Refreshments @  
3:30 in 202 NSH