Nuclear Physics Seminar

MONDAY

NOVEMBER 16

4:00 P.M.

RM 124 NSH

Searching for New Physics at RIB Facilities using Beta Decay

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Despite its success, the Standard Model is known to be incomplete, and providing limits on possible physics beyond the Standard Model (BSM) is crucial to our understanding of the physical universe. Although they are generally complex, unstable nuclear systems provide some of the best venues for these experiments through detailed studies of nuclear beta decay. As a part of this work, searching for possible scalar currents in the weak interaction and attempting to extract the effective Majorana mass of the neutrino are at the forefront. In this seminar I will present some of the methods in which we can attack these issues using radioactive beam experiments. Further, I will also discuss how some of these techniques can allow us to look at second order processes in electron-capture (EC) decay in the future.