

RCNP SEMINAR

- Seminar and Discussions on Double Beta Decay -

Date May 12 (Wed), 2010

Place Lecture room, 4th floor , RCNP, Osaka University

1. Seminar talk

Time: 10:00 am -

Speaker: Prof. Mihai Horoi (Central Michigan University)

Title: Shell Model Predictions of Double Beta Decay Half-Lives

Abstract:

Recent results from neutrino oscillation experiments have convincingly demonstrated that neutrinos have mass and they can mix. The neutrinoless double beta decay is the most sensitive process to determine the absolute scale of the neutrino masses, and the only one that can distinguish whether neutrino is a Dirac or a Majorana particle. A key ingredient for extracting the absolute neutrino masses from neutrinoless double beta decay experiments is a precise knowledge of the nuclear matrix elements (NME) for this process. In my talk I will present newly developed shell model approaches for computing the NME and half-lives for the two-neutrino and neutrinoless double beta decay modes of ^{48}Ca using modern effective interactions. The implications of the new results on the experimental limits of the effective neutrino mass will be discussed, and compared with those obtained for the ^{76}Ge decay.

2. Discussions on experimental status of double beta decay from ^{48}Ca

Time: 11:00am -

Speaker: Dr. S. Umehara (Osaka Univ.)

Title: CANDLES for the double beta decay from ^{48}Ca