



独立行政法人理化学研究所 仁科加速器研究センター  
第188回 RIBF核物理セミナー

RIKEN Nishina Center for Accelerator Based Science  
The 188<sup>th</sup> RIBF Nuclear Physics Seminar

## Low-energy nuclear physics program at CNS

Prof. Nobuaki Imai  
(CNS, The university of Tokyo)

Low energy ion beams of around 10 MeV/nucleon is suitable to study the behavior of a nucleon on the surface of the nucleus. For the first part of my talk, I'll present two experiments to study the single particle natures of  $^{31}\text{Mg}$  and  $^{35}\text{Si}$  which are located in the vicinity of the island of inversion through their isobaric analog resonances. The experiments were performed with RI beams of a few MeV/nucleon. I'll also discuss a coming re-measurement of the isobaric analog resonances of  $^{35}\text{Si}$  as well as new experiments for heavy regions. For the second part, I'll introduce a new project. In the project, we aim to produce a large amount of "pure" hafnium isomer which has 16+ high spin and a half-life of 31 years. In the past experiments, the production cross sections of  $^{176}\text{Yb}(a, 2n)^{178m2}\text{Hf}$  were measured and the chemical separation was performed to obtain samples of several % purity. In addition to these processes, we try to purify them by using the laser resonant ionization technique. The idea and the time schedule will be discussed.

January 20th (Tue.) 2015 15:30 ~  
RIBF Hall (rm.201), RIBF bldg., RIKEN

Contact: Nuclear Physics Seminar Organizing Committee  
[npsoc@ribf.riken.jp](mailto:npsoc@ribf.riken.jp)  
<http://ribf.riken.jp/~seminar/>