

# 656<sup>th</sup> ASRC Seminar

Date: Monday, December 5, 10:30 ~12:00

Location: Room 302, ASRC bldg.

Speaker: Dr. Georgi Georgiev  
(Center for Nuclear Science and Materials Science)

Title: Nuclear moments and transition probabilities studies using stable and radioactive ion beams

Abstract: Nuclear moments and transition probabilities are among the most sensitive experimental observables that could provide key information both on the single-particle and collective degrees of freedom throughout the nuclear landscape. They are of special interest in the regions of the nuclear chart where (sudden) modifications of the nuclear structure is expected. The use of radioactive beams for transition probability -, and especially for nuclear moment - studies is a challenging task, which requires some modifications of well-established stable-beam methods.

Some recent developments at ALTO of the Time Dependent Recoil in Vacuum (TDRIV) technique in radioactive-beam geometry will be presented. The physics results obtained for the gyromagnetic factor of the  $2^+$  state in  $^{24}\text{Mg}$  will be discussed in line of their impact on constraining the nuclear theories. A short general overview of the ALTO facility and some of its near-future projects will be given as well.

In the second part of the seminar some Coulomb excitation studies of odd-mass Rb isotopes, performed at REX-ISOLDE, will be presented. The physics results, demonstrating another clear cut example for a sudden shape change across the  $N=60$  line, will be discussed.

<Contact>

Katsuhisa Nishio (81-5454)

Advanced Science Research Center