FAKULTÄT für PHYSIK
LUDWIG-MAXIMILIANS-UNIVERSITÄT
MÜNCHEN/GARCHING

PHYSIK-DEPARTMENT
TECHNISCHE UNIVERSITÄT MÜNCHEN
MÜNCHEN/GARCHING

MLL-KOLLOQUIUM

Donnerstag, 20.10.2016, 16^{05} Uhr

WICHTIG:
Dieses MLL-Kolloquium findet im Rahmen des 'Science Day' der Research Area G des UNIVERSE Clusters statt (9-17 Uhr).
Bitte daher auch die Anfangszeit des Vortrags beachten !
Ort: Max-Planck-Institut f. Extraterrestrische Physik, Giessenbachstrasse, Seminarraum 1.18a

Prof. Kathrin Wimmer

(University of Tokyo)

Isospin-Symmetry and Shape Coexistence along N=Z Nuclei

The region of proton-rich nuclei around $N = Z$ shows various interesting phenomena. Isospin symmetry is fundamental in nuclear physics. If the proton and neutron are considered as identical the excitation spectra of mirror nuclei with proton and neutron number interchanged would be the same. In reality small differences arise due to the Coulomb interaction and isospin non-conserving components of the nuclear force. Mirror nuclei should also have the same shape. In proton-rich nuclei around Se, Kr, and Sr rapid shape changes have been observed between prolate and oblate deformation. In many cases this results in the coexistence of two states with very different intrinsic shapes at low excitation energy. Detailed spectroscopic studies of mirror nuclei provide insights in the details of the nuclear force and the evolution of shapes in exotic systems. In this talk I will present a recent experimental campaign performed at RIBF, RIKEN in Japan to study the first spectroscopy of ^{70}Kr located beyond $N = Z$. I will give an overview of the facility and the experimental method of in-beam γ-ray spectroscopy and discuss the results in the view of isospin symmetry and shape coexistence.

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