

FAKULTÄT für PHYSIK
LUDWIG-MAXIMILIANS-UNIVERSITÄT
MÜNCHEN/GARCHING

PHYSIK-DEPARTMENT
TECHNISCHE UNIVERSITÄT MÜNCHEN
MÜNCHEN/GARCHING

Garching Maier-Leibnitz-Kolloquium

Donnerstag, 07.11.2024, 16¹⁵ Uhr

Hörsaal der LMU in Garching, Am Coulombwall 1
Treffen zum gemeinsamen Kaffee 16 Uhr

Priv. Doz. Dr. Kathrin Wimmer

(GSI Helmholtzzentrum für Schwerionenforschung, Darmstadt)

Investigating Nuclear Shell Evolution with Swift Rare Isotope Beams

Atomic nuclei display a rich interplay of single-particle and collective behaviors that give rise to a variety of exotic structural phenomena. In nuclei with very asymmetric proton-to-neutron ratios, the strong nuclear interaction drives shell evolution, altering orbital spacing and even changing the ordering compared to observations in stable nuclei. Such changes impact not only nuclear structure and dynamics but also play a fundamental role in the synthesis of elements in the cosmos.

In-beam gamma-ray spectroscopy provides an excellent approach to probe the structure of these rare, unstable nuclei in the laboratory. This talk will provide an overview of the experimental techniques used in this field, highlighting recent discoveries across a broad spectrum of nuclear structure topics - from collective behaviors to single-particle dynamics in nuclei far from stability. I will also discuss promising advancements that could significantly enhance the sensitivity of these methods, paving the way for future explorations at the FAIR facility.

Hybrid online access via ZOOM:

<https://lmu-munich.zoom.us/j/98457332925?pwd=TWc3V1JkSHpyOTBPQVlMelhuNnZ1dz09>

Meeting ID: 984 5733 2925

Passcode: 979953

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