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## Coulomb excitation in $^{185g,m}\text{Hg}$ - Shape coexistence in the neutron-deficient lead region

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Shape coexistence in the neutron-deficient lead region around  $N \approx 104$  has been discovered in different nuclei especially in the mercury isotopes, where a staggering effect was found between even- and odd-mass nuclei using charge radii measurements [1,2]. In addition the study of the even-even  $^{182,184,186,188}\text{Hg}$  isotopes via Coulomb excitation reactions showed a mixing of weakly deformed oblate and more deformed prolate configurations which coexists at low excitation energies [3].

To investigate collective behavior of low-lying states on top of the  $(1/2^-)$  ground-state in  $^{185g}\text{Hg}$  and the different deformed  $(13/2^+)$  isomeric state in  $^{185m}\text{Hg}$ , a Coulomb excitation experiment was performed at HIE-ISOLDE. The  $^{185g,m}\text{Hg}$  beams were accelerated onto  $^{120}\text{Sn}$  and  $^{48}\text{Ti}$  targets with an energy of 4 MeV/u. The emitted  $\gamma$  rays were detected utilizing the Miniball array in coincidence to the scattered particles measured in the DSSTD detector. Furthermore the SPEDE spectrometer was used to determine distributions from conversion electrons.

Preliminary results of excited states of  $^{185g,m}\text{Hg}$  will be shown for both targets. Excited states in  $^{185g}\text{Hg}$  up to a spin of  $29/2^-$  were observed using the  $^{120}\text{Sn}$  target.

[1] B. Marsh et al., Nature Physics 14, 1163 (2018)

[2] J. Bonn et al., Zeitschrift für Physik A Hadrons and Nuclei 276(3), 203 (1976)

[3] K. Wrzosek-Lipska et al., Eur. Phys. J. A 55:130 (2019)

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