

Simultaneous in-beam gamma-ray and electron spectroscopy at JYFL

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One of the goals of modern nuclear physics research is to understand the origin of coexisting nuclear shapes and exotic excitations and their relation to the fundamental interactions between nuclear constituents. Despite of huge amount of both theoretical and experimental efforts, many open questions remain [1 and references therein]. In order to verify and understand these subjects in more detail, complementary approaches are needed.

This talk will give an insight into shape coexistence studies around neutron-deficient Pb nuclei. In particular, it will focus on series of simultaneous in-beam electron and gamma-ray spectroscopy experiments employing the SAGE spectrometer [2] at JYFL, Finland. Their relation to Coulomb excitation studies at Miniball [3] at HIE-ISOLDE, CERN [4] will also be discussed.

References

- [1] K. Heyde and J.L. Wood, Rev. Mod. Phys. 83 1467 (2011).
- [2] J. Pakarinen et al., Eur. Phys. J. A 50: 53 (2014).
- [3] N. Warr et al., Eur. Phys. J. A 49, 40 (2013).
- [4] P. Van Duppen, K. Riisager, J. Phys. G: Nucl. Part. Phys. 38, 024005 (2011).

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Déposé par PAKARINEN, Janne le mardi 26 avril 2022