



Recent spectroscopic studies in the actinide region using MARA and RITU separators

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In this talk I will present the results, together with a brief physics discussion, obtained in a multitude of experiments focused on the study of nuclei near the light actinide region. These results include the observation of the isomeric $^{13/2^+}$ ($\pi(i_{13/2})$) state in ^{201}Fr [1], as well as the first rigorous identification of the new α -decaying isotope ^{211}Pa [2]. In addition, an isomeric $^{13/2^+}$ state arising from a $\nu i_{13/2}^{-1}$ configuration has been observed in ^{211}Th [3]. These three results were obtained using the GREAT spectrometer at the focal plane of the RITU gas-filled recoil separator. In our recent experiment employing the MARA separator we studied the structure of ^{213}Ac and ^{211}Ac nuclei via in-beam and delayed spectroscopy. Some preliminary results of these experiments will be discussed.

References

[1] K. Auranen et al., PRC 101, 024306 (2020)

[2] K. Auranen et al., PRC 102, 034305 (2020)

[3] K. Auranen et al., PRC (under review)

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