

Fission fragment measurement of U isotope via (p,2p) reaction

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The fission threshold energy will be determined for Uranium isotopes with mass numbers ranging from 200 to 230 through the missing mass spectroscopy for the (p,2p) reaction in combination with the fission fragment detection with the SAMURAI spectrometer. These nuclei are of special interest, showing transitions from the asymmetric to symmetric fission and possibly strong effect of the deformation on the shell structures.

The measurements will provide a rich source of information of the fission with respect to:

- 1) fission threshold energy
 - 2) Shell effect of deformation near fission threshold
 - 3) Washout of shell effect at high excitation energy
 - 4) Potential surface energy
- (scission point, ridge between mass symmetric and asymmetric fission)

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