

Prompt neutrons from the spontaneous fission of ^{244}Fm

An experiment on the study of the ^{244}Fm spontaneous fission was conducted using the SHELS separator. The isotope was synthesized in the complete fusion reaction of ^{40}Ar beam ions and ^{206}Pb target nuclei. The neutron yields of ^{244}Fm spontaneous fission ($\nu = 3,62 \pm 0,12$, $\sigma\nu^2 = 1,79$) were obtained with the best precision using the SFiNx detector system. The multiplicity distribution of emitted prompt neutrons was restored using the Tikhonov method of statistical regularisation. The experimental data were compared with scission point model predictions.

Section

Nuclear structure: theory and experiment

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