

Detailed study of radioactive decay properties of nobelium isotopes with α , β , γ -spectroscopy method

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At FLNR JINR, experiments are aimed to investigate the radioactive decay properties (α , β , γ -spectroscopy) and the cross sections measurements of transfermium elements, synthesized in complete fusion reaction of accelerated heavy ion beam with target nuclei, with subsequent evaporation of several light particles at the kinematic separator SHELS [1,2]. A number of experiments were devoted to the study of the radioactive decay properties of Nobelium isotopes are produced as an evaporation result of two or three neutrons by a compound nucleus in the reaction of ^{48}Ca beam with $^{204,206,208}\text{Pb}$ targets. These Nobelium isotopes have sufficiently high production cross-sections, which allow us collect good statistics for studying decay properties by methods of alpha, beta, gamma spectroscopy. Nobelium isotopes are interesting in how the radioactive decay properties change passing through the closed subshell $N = 152$, thereby could be obtain data are necessary to understanding how the heavy elements properties behave passing through the subshell $N = 162$.

1. A. V. Yeremin, et al., Phys. Part. Nucl. Lett. 12, 43 (2015).
2. A. V. Yeremin, et al., Phys. Part. Nucl. Lett. 12, 35 (2015).

The speaker is a student or young scientist

Yes

Section

1. Nuclear structure: theory and experiment

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