

LXXII International conference "Nucleus-2022: Fundamental problems and applications"

Contribution ID: 414

Type: Oral talk (15 min + 5 min questions)

PHOTONUCLEAR METHOD FOR THE PRODUCTION OF MEDICAL RADIOISOTOPE ^{72}As

Friday, 15 July 2022 15:20 (10 minutes)

The method of induced activity was used to study photonuclear reactions on a natural mixture of selenium isotopes. The experiment was performed on a bremsstrahlung of an RM-55 electron accelerator at an electron energy of 55 MeV. The study examined the possibility of producing ^{72}As isotope in photonuclear reactions on a natural mixture of selenium isotopes. Experimental data on the cross-sections of photoproton reactions on Se isotopes are not available in the literature. The yields of the formation of $^{73,74,75,76,81,81\text{m}}\text{Se}$ isotopes as a result of $\text{natSe}(\gamma, \text{in})$ reactions, the target nuclide ^{72}As and the side nuclides $^{71,74,76,77,78,79}\text{As}$ as a result of $\text{natSe}(\gamma, \text{in1p})$ reactions were measured. The experimentally obtained yields of photonuclear reactions are compared with the yields calculated using theoretical cross-sections of photonuclear reactions from and the TALYS program.

The speaker is a student or young scientist

Yes

Section

1. Nuclear technology and methods in medicine, radioecology

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Session Classification: Nuclear technology and methods in medicine, radioecology.