

INVESTIGATION OF FUSION REACTIONS $^{194}\text{Pt}(\alpha, n)^{197\text{m}}\text{gHg}$ AND $^{195}\text{Pt}(^3\text{He}, n)^{197\text{m}}\text{gHg}$ AT NEAR-BARRIER ENERGIES

Chuvilskaya T.V.

Skobeltsyn Institute of Nuclear Physics, Lomonosov Moscow State University, Russia

E-mail: tatchuv@nucl-th.sinp.msu.ru

Earlier the excitation functions and isomeric cross section ratios of α - [1] and deuteron-induced [2] nuclear reactions on ^{194}Pt target were measured by us. In the present work the calculations of these values for the reactions $^{194}\text{Pt}(\alpha, n)^{197\text{m}}\text{gHg}$ and $^{195}\text{Pt}(^3\text{He}, n)^{197\text{m}}\text{gHg}$ at the energy ranges $E=18-31$ MeV – for α -particles and $E=13-24$ MeV – for ^3He ions were performed using codes TALYS and EMPIRE-3.1. Such beams are produced by the cyclotron of SINP. The results of the calculations demonstrate that interesting isotopic effects similar to, in particular, the ones presented in [3], may be observed in these reactions.

1. A.F.Tulinov *et al.* // Izv. RAN. Ser. Fiz. V.57. 1993. P.135.
2. A.A.Kulko *et al.* // PEPAN Letters. 2012. V.9. P.502.
3. R.Wolski // Phys. Rev. C. 2013. V.88. 041603.