

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

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Earlier the excitation functions and isomeric cross section ratios of  $\alpha$ - [1] and deuteron-induced [2] nuclear reactions on  $^{194}\text{Pt}$  target were measured by us. In the present work the calculations of these values for the reactions  $^{194}\text{Pt}(\alpha, n)^{197\text{mg}}\text{Hg}$  and  $^{195}\text{Pt}({}^3\text{He}, n)^{197\text{mg}}\text{Hg}$  at the energy ranges  $E=18\text{-}31$  MeV – for  $\alpha$ -particles and  $E=13\text{-}24$  MeV – for  ${}^3\text{He}$  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.