

## **AN EFFECTIVE METHOD OF EXCITATION FUNCTION MEASUREMENTS FOR ( $\alpha,n$ ) REACTIONS AT LOW ENERGIES**

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This work is dedicated to the development of the thick target at inverse kinematics method (TTIK) [1, 2] with an aim to examining the possibility of measuring excitation functions for ( $\alpha,n$ ) reactions. The usage of pulse beams in the frame of TTIK approach in combination with time of flight measurements enables to measure excitation function in a wide energy range with an experimental resolution of a few dozen keV even at cyclotrons. Test experiment was performed on the basis of the heavy ion accelerator DC-60 at The Institute of Nuclear Physics' Nur-Sultan branch (Nur-Sultan, Kazakhstan). The excitation function of resonance reaction  $^{13}\text{C}(\alpha,n)^{16}\text{O}$  in excitation energy range of  $\sim 8.2\text{--}8.9$  MeV was measured. The obtained results are compared with the data of other recognized works [3–5] and the future of new approach is discussed.

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