

# MEASUREMENT OF CROSS SECTIONS FOR THE $^{14}\text{N}(n, \alpha)^{11}\text{B}$ REACTION IN THE MeV REGION

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## ABSTRACT

We have measured the cross sections of the  $^{14}\text{N}(n, \alpha)^{11}\text{B}$  reaction in the 3.9-5.3 MeV. Experiments were performed at the Van de Graaff Accelerator EG5 of Frank Laboratory Neutron Physics, JINR. Fast monoenergetic neutrons were obtained from the reaction  $^2\text{H}(d, n)^3\text{He}$  using a gaseous deuterium target. The gridded ionization chamber was used as an alpha particle detector. Thin solid samples of adenine ( $\text{C}_5\text{H}_5\text{N}_5$ ) deposited on a tantalum backing were used as a target. The absolute and relative neutron flux was determined by two highly enriched  $^{238}\text{U}_3\text{O}_8$  samples inside the GIC. The present results are compared with existing data and libraries.