

## Experimental study of thick target yield from the $^{13}\text{C}(\alpha,n)^{16}\text{O}$ reaction

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The thick-target neutron spectra from the  $^{13}\text{C}(\alpha,n)^{16}\text{O}$  reaction were measured for the energy range of 3.0-6.5 MeV at 10 angles in the laboratory angle interval of 0-150°. The thick target yield was determined by integration of the neutron spectra over the neutron energy range corresponding to the  $^{13}\text{C}(\alpha,n)^{16}\text{O}$  reaction followed by integration of the obtained angular distribution of the differential thick target yield over the solid angle  $4\pi$ . The content of  $^{13}\text{C}$  atoms in the target was determined by ion beam analysis with accuracy of <1%. The obtained thick target yield values support the calculated ones based on the  $^{16}\text{O}(n,\alpha)^{13}\text{C}$  reaction cross-section evaluation from the ENDF/B-VIII.0 library.

**Primary author:** Dr PRUSACHENKO, Pavel (Insitute for Physics and Power Engineering (IPPE), Bondarenko sq. 1, Obninsk 249033, Russia)

**Co-authors:** Mr BOBROVSKIY, Timofey; Dr BOKHOVKO, Michael (Insitute for Physics and Power Engineering (IPPE), Bondarenko sq. 1, Obninsk 249033, Russia); Dr GURBICH, Alexander (Insitute for Physics and Power Engineering (IPPE), Bondarenko sq. 1, Obninsk 249033, Russia)

**Presenter:** Dr PRUSACHENKO, Pavel (Insitute for Physics and Power Engineering (IPPE), Bondarenko sq. 1, Obninsk 249033, Russia)