

Ukrainian Nuclear Data Centre

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Introduction

UkrNDC is subdivision within the Neutron Physics Laboratory at the Institute for Nuclear Research of the National Academy of Sciences of Ukraine

UKRNDC has:

- **2 permanent researchers**
- **They are also involved in the experimental neutron data measurements at the Kyiv research reactor**

Compilation

Continue collection and compilation of experimental data

New/renew entries sent to NDS:

- **for charged particle data: 9 entries (91 subentries)**
- **for photonuclear data: 3 entries (9 subentries)**

Compilation (continue)

Review of compilation scope in home journals and scientific issues:

- **Nuclear Physics and Atomic Energy**
- **Ukrainian Journal of Physics**
- **Problems of Atomic Science and Technology,
Series: Nuclear Physics Investigations**
- **East European Journal of Physics**

Collaboration

Continue collaboration with the PD of the Taras Shevchenko National University of Kyiv:

- *The teaching course "Nuclear Data for Science and Technology and Modern Computer Codes for Nuclear Data Processing" (42 hours) was lectured in 2022-2023 for the fifth-course students*

Collaboration (continue)

We continue our activity within the framework of educational and scientific program of the INR of the **NAS of Ukraine** on the preparation of a doctor of philosophy in specialty 01.04.16 (physics of the nucleus, elementary particles and high energies):

- The teaching course "*Modern codes and nuclear data*" (26 hours) was lectured in September-October 2022 for post-graduate students in the 2nd year of study.
- The teaching course "*Experimental Methods at Atomic Power Engineering*" (26 hours) was lectured in January-February 2023 for post-graduated students in the 1st year of study.

Customer Services

The UkrNDC site is operating. Ukrainian customers, especially students and those physicists, who wish to prepare the point-wise and multi-group cross sections self-dependently, but do not have a good experience in it, use this site very often. Address of the UkrNDC site: <http://ukrndc.kinr.kiev.ua>.

Experimental & Computational Activity

Calculations for improvement of the interference neutron filter with an average energy of 45 keV were done. About 15 variants of the filter were calculated with the addition of various components and selection of their quantity. We tried to optimize three parameters: filter purity, neutron flux density at the filter output, and minimization of the contribution in the low-energy range. According to the calculations, the filter parameters should be as follows: the average neutron energy is 46.25 keV; half-width of the main line – 3.2 keV; relative purity of the main line – 88.3%; the expected neutron flux density is 1.3×10^6 n/(cm²×s).

Through Russian war, Kyiv research reactor did not operate, so experimental investigation did not fulfilled.

Acknowledgement

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Thank You

for Your attention!

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