

Ukrainian Nuclear Data Centre: Progress Report for period 2021-2022
Summary of Nuclear Data Activity by Staff of the Ukrainian Nuclear Data Centre
April 2021 – May 2022

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Ukrainian Nuclear Data Centre (UkrNDC) is subdivision within the Neutron Physics Laboratory at the Institute for Nuclear Research of the National Academy of Sciences of Ukraine.

Compilation

We continue collection and compilation of experimental neutron, charged particle and photonuclear data. Number of the new/renew EXFOR's entries sent to the NDS IAEA by UkrNDC is the following:

- for neutron data – 1 new entry (32251);
- for charged particle data – 9 new entries (D5184, D5187÷D5194);
- for photonuclear data – 11 new entries (G4089÷G4099) and 1 updated entry (G4042).

We realize review of compilation scope in home journals:

- 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

We continue our collaboration with the Nuclear Physics Department of 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 2021-2022 for the fifth-course students of the NPD KNU. This course includes the following items: ENDF/B libraries, EXROR system, ENSDF library, the use of the PREPRO code in work with the ENDF/B libraries, the introduction to NJOY code system, the Network of Nuclear Reaction Data Centers and the use of the on-line services.

We continue our activity within the framework of educational and scientific program of the Institute for Nuclear Research of the National Academy of Sciences 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 “Experimental methods of nuclear power engineering” (26 hours) was lectured in September-October 2021 and May 2022 for post-graduate students in the 2nd year of study.
- The teaching course “Modern codes and nuclear data” (26 hours) was lectured in May 2022 for post-graduate students in the 2nd 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 and Computational Activity

Simulation of a new neutron filter with average energy 1.6 keV has been completed.

V. A. Libman, O. O. Gritzay Simulation of a new neutron filter with average energy 1.6 keV// Nucl. Phys. At. Energy 2021, volume 22, issue 3, pages 308-311.

Improvement of an interference neutron filter with an average energy of 45 keV is in process.

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