

**Ukrainian Nuclear Data Centre Progress Report, 2012/13**  
**Summary of Nuclear Data Studies by Staff of the Ukrainian Nuclear Data Centre**  
**Editor: O. Gritzay**

**Technical Meeting on the**  
**International Network of Nuclear Reaction Data Centres**  
**6 - 9 May, 2014, Smolenice, Slovakia**

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Ukrainian Nuclear Data Centre (UkrNDC) is subdivision within the Neutron Physics Department at the Institute for Nuclear Research of the National Academy of Sciences of Ukraine. UkrNDC has 4 permanent researchers.

### Compilation

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

- for neutron data – 5 entries (32232- 32236);
- for charged particle data – 9 entries (D5094, D5096, D5098 - D5102, D5064, D5078);
- for photonuclear data – 12 entries (G4039 - G4047, G4001, G4002, G4007).

We realize 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";
- Uzhhorod University Scientific Herald. Series Physics;
- Bulletin of Taras Shevchenko National University of Kyiv Series: Physics & Mathematics;
- Proceedings of the International Conference NPAE-Kyiv2012.

Preparation of the numerical view of the neutron spectrum after the interference filters used at the Kyiv Research Reactor is in progress. The 2 and 59 keV filtered spectra (calculated) are prepared as 32217004 – 32217005, the 59 keV filtered spectra (experimental and calculated) are prepared as 32238002 – 32238003, 32238005 – 32238007. These entries will be sent to the NDS.

### 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*” (38 hours) has been lectured in 2013 for the fifth-course students of NPD KNU. This course includes the following items: ENDF/B libraries, EXFOR system, ENSDF library, the use of the PREPRO code in work with the ENDF libraries, the introduction to NJOY code system, the Network of Nuclear Reaction Data Centers and the use of the on-line services.

- The teaching course “*Experimental Methods at Atomic Power Engineering*” (38 hours) are lectured in 2014 for third-year students of NPD KNU.

We continue our collaboration with Pavel Sukhoi State Technical University of Gomel in frame of the task on development and organization of scientific methodology and information databases for nuclear technology calculations in the Republic of Belarus. Activity on creation of the web-site “Scientific, Methodological and Information Basis for Nuclear and Technological Calculations” in Physics Research Laboratory (PRL), Pavel Sukhoi State Technical University of Gomel is started (38 html files were developed and transferred to the PRL).

### **Customer Services**

- During 2012-2013 the data for users requests were prepared and adapted (from ENDF, ENSDF and EXFOR libraries) for our institute researchers and for ones from other institutes. The organizations, whose requests on nuclear data have arrived and were executed in the accounting period:
  1. Uzhgorod Institute of Electron Physics of NASU.
  2. Department of Nuclear Physics of the Institute for Nuclear Research (INR) of NASU.
  3. Department of the Theory of Nuclear Reactions INR of NASU.
- The UkrNDC site is operating. Ukrainian customers, especially students and those physicists, who wish to prepare the point-wise and multigroup 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>.

### **Visits and Conferences**

- The XI-th International School-Seminar “The Actual Problems of Microworld Physics”, 22 July -2 August, 2013, Gomel, Belarus.
- Workshop on EXFOR Compilation from 27 to 30 August 2013, at the IAEA's Headquarters, Vienna, Austria.