

CJD: Progress Report, 2007/2008
IAEA Technical Meeting
“Co-ordination of the Network of Nuclear Reaction Data Centers”
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1. Staff

Total number of staff in the CJD is 9.
This is divided into 6 professional staff and three support staff.

2. Data Compilation

2.1. EXFOR activity.

New and revised entries / subentries since the 2006/2007 NRDC meeting

Trans number	Date/status	# Entries	# Subents total	# Subents new
4144	2008-09-15 prelim	11	118	18
4143	2008-07-21	29	244	36
4142	2008-02-08	20	100	35
4141	2007-09-29 final	23	118	26

Sum **83** **580** **115**

2.2. CINDA activity.

New issue of CINDA (CD-disks) were distributed through the users in different institutes (Rosatom).

3. Publications

In during 2006-2007 two issues of the journal “Yadernye Konstanty” were prepared and printed. The 2008 issue of YK is in compilation.

4. Nuclear Data Services

The nuclear data services are provided through direct contact with the users from the Russian organizations. Mainly the compilation of the evaluated data of the different types are needed.

4. NUCLEAR DATA EVALUATION Activity

1. BROND-3 – preparation of new evaluated data files, compilation and processing and integral testing. A proposal for the fission product data library is done and data are in analysis and compilation.

A paper with a description of this activity is prepared for a publication in YK-2008.

2. BROND-3/FPYLD including evaluated neutron data files for 28 fissile systems was prepared.

A description of these data is prepared for a publication in YK-2008..

3. New version of the Russian Reactor Dosimetry File is prepared and now it is under the compilation and benchmark testing. Evaluated data files were made for the 42 reactions with the covariance matrices. Some of them were included into the IRDF-2002/2005 compiled by the NDS. New evaluated data sets were prepared in during 2007-2008. A latest development includes files for $^{139}\text{La}(n,g)$ and $^{197}\text{Au}(n,g)$ with full covariance matrices of uncertainties and files of $^{235}\text{U}(n,f)$, $^{238}\text{U}(n,g)$, $^{238}\text{U}(n,f)$ and $^{239}\text{Pu}(n,f)$ with covariance matrices obtained from the ORNL evaluation in resonance region and standards evaluation at high energy. A complete list of data required for a practical application in fission power and research reactors is compiled. It includes a required data set for 86 element/reactions.

4. CJD was engaged in re-evaluation and preparation of evaluated neutron data for minor actinides and fission products for the RUSFOND Library which is a base for the ABBN group constant system. The correction, processing and testing of modified evaluated data files is under way.

A paper with a description of this activity is prepared for a publication in YK-2008.

5. New evaluated data for ACDAM library for the activation/damage calculations is compiled in the Russian Nuclear Data Center and consists from three parts:

- Activation/transmutation neutron cross-section base (From the element H (A=1) to Po (A=210), in the neutron energy range 10^{-5} to 20- MeV and it includes 704 target isotopes with data presentation: in ENDF-6 format. New data for ~1200 neutron reaction data sets.

- Decay Data Library (DeDaL)

- Damage Data Library (DDL) (74 elements/isotopes in the neutron energy range 10^{-5} to 20- MeV. The data for main structural elements and basic impurities involved in alloys and steels are included in the DDL in ENDF-6 format.

A paper with a description of this activity is prepared for a publication in VANT, serie “New materials”, 2008 (Moscow, VNIINM named by Bochvar).

6. Evaluated data files for actinides from the ENDF/B-VI, ENDF/B-VII< JEFF-3.1, BROND, EAF libraries were analyzed and the recommendations for a transmutation calculations were made.

The paper “ATLAS of nuclear neutron cross sections for actinides” including ~400 plots with intercomparison was prepared and will be printed as a special issue.