

Development of Software to Input and Edit Experimental Data in EXFOR Format

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There were two Actions related to CNPD that concerned software development – A74 and A72. So this report is about the current status of our software and our plans for future.

Now we develop and support two main compilation tools for EXFOR format data processing. They are the digitizing program InpGraph and the EXFOR-Editor.

After a thorough review of our own experience and users feedbacks we made a decision to design two modifications for both of these programs. The first one is for skilled users and the other one is for novice users.

The compilation tools for skilled users have traditional interface that is familiar for the members of nuclear reaction data centers.

For software intended for novice users we took a decision to use a new approach – Parameter Gathering Techniques – which allows the user entering the minimum amount of information. The rest of the parameters are determined by the program itself. So we organized the interface of these tools in a form of a Wizard which can lead the user through the interface step by step to do tasks in a prescribed order.

We described in details the last improvements and proposals for future development of the digitizing program InpGraph at the Consultant Meeting “Benchmark of the Digitization Software” that was held in Vienna from 12 to 14 November 2012. They are published in the summary report of the Consultant Meeting.

Now we are speaking about the EXFOR Editor 2.3.

During the last year we issued three versions of the EXFOR-Editor. We took into account the bugs found by us and feedbacks and suggestions of the users. Special thanks for our Indian colleagues for the detailed review of the EXFOR-Editor use at the Third Asian Nuclear Reaction Database Development Workshop. We would also like to make special mention of Boris Pritychenko’s help and patience during the improvement of the Editor.

Here only few corrections are listed.

1. The order of inserting alteration flags on ENTRY and SUBENT records was changed. Now a special menu is available where the place for alternation flag has to be chosen. There is a possibility of inserting an alteration flag into the selected SUBENT records only.

2. The REACTION dialog window is also improved. According to the users feedbacks editing or inputting of quantity fields SF5-8 separately with the help of corresponding dictionaries is implemented.

3. The following opportunities for plotting of experimental data were introduced:

- To display unsymmetrical errors on data curves;
- To show several plots with their own ordinate axes in one chart.

The new versions of Checker CHEX and JANIS Trans Checker programs are also used. We thank Victor Zerkov NRDC IAEA and Nicolas Sopperra, NEA DATABANK for fruitful cooperation.

Now we are preparing the EXFOR-Editor version to publish on the WEB-site of CNPD. The way to launch the program without any registration is implemented here. For this purpose the OCX component for data tables processing is replaced by its freeware analog. The entire service for data processing is preserved. Special attention is paid to selection and implementation of a quick algorithm of three-dimensional data sorting.

“Light” versions of InpGraph digitizer and EXFOR-Editor with interface in the form of wizard are now under construction. We are going to prepare them for the next meeting. All recommendations of the members of NDS, Data Centers and Consultant Meeting are taken into account.