

Japan Charged-Particle Nuclear Reaction Data Group (JCPRG)

Executive Committee

Progress Report to the
IAEA Technical Meeting on the Network of Nuclear Reaction Data Centres
4-7 October 2004

0. General

Since the last NRDC meeting in June 2003, we have carried out the following activities:

1. Compilation of CPND for NRDF and EXFOR
2. Compilation of CPND bibliographies for CINDA
3. Improvement of Web-based data input system "HENDEL"
4. Improvement of NRDF retrieval system "DARPE"
5. Development of utilization system for EXFOR and evaluated libraries
6. Data services for Japanese users

The regular JCPRG budget has ended at March 2001. We are applying a competitive budget for our further activity. Executive committee is organized by 7 researchers and 1 secretary. 6 postdoctoral researchers in Meme Media Lab. of Hokkaido Univ., 6 graduated students in Nuclear Physics Laboratory of Hokkaido Univ. and 1 technical staff work part-time. 1.5 equivalent man year is dedicated to NRDC Network activities.

1. CPND Compilation for NRDF and EXFOR

In 2003 JFY, we newly compiled 85 references (984 records, 6.85 MB) for NRDF based on CPND obtained with the accelerators in Japan and published in PRL, PR/C, PR/D, PL/B, NP/A, PTP, NST, EPJ/A, NIM/A, NIM/B, NIM, JPJ, NSE, ARI, RCA, JNRS, ZP/A, JIN, RI, and BCJ, some of which are specially checked for references identified as missing in EXFOR during the Coordinated Research Project on Medical Radioisotope Production and Technical Meeting on Ion Beam Analysis (c.f. Action 27, 2003).

Since the last NRDC meeting (June 2003, Vienna), 69 new entries were made by translation from NRDF to EXFOR, and also 82 old entries were revised. These were transmitted by 7 trans files (E023 to E028 and R014) to NDS open area. JCPRG is grateful for many comments from NDS, NNDC and CAJaD on our files.

As the first case of author proofs, several EXFOR entries for new works by Cyclotron Radioisotope Center (CYRIC), Tohoku Univ., Sendai are reviewed by authors. We appreciate their cooperation.

2. CPND Bibliography Compilation for CINDA

We start the compilation of bibliographies for Japanese CPND works. We are regularly scanning 4 Japanese journals JPJ, PTP, NST and NSTS. Neutron bibliographies are compiled at JAERI for JPJ, PTP and NST as before. The first batch (86 new records) was submitted to NEA in July 2004. This batch will be corrected according to the decision of 2004 NRDC meeting.

3. Web-Based Data Input System “HENDEL”

A web-based nuclear data input system HENDEL (Hyper Editor for Nuclear Data Exchange Libraries) has been improved so as to cover whole aspects of NRDF and EXFOR (c.f. WP2002-31). Since the last meeting, some upgrades have been done:

- With the aid of V. Zerkin, Linux version of CHEX is installed to this system. CHEX results are automatically generated whenever we generate EXFOR files by HENDEL.
- Multiple reaction formalism is covered.
- Some separated input forms for NRDF and EXFOR (e.g. detector) are now unified.

Now this system is accessible from our web site for comments from other centres (c.f. Action 35, 2003). User: *guest*, Password: *jcprgx4*. Manual is in preparation. You can learn by yourself from a sample input with entry id x0055 for now.

4. NRDF Retrieval System “DARPE”

The NRDF database is accessible from our web site. New data, for which NRDF files are reviewed by JCPRG executive committee but EXFOR files are not finalized, can be obtained from this site.

5. Utilization System for EXFOR and Evaluated Libraries

JCPRG is developing a new utilization system for the experimental data and evaluated data as a joint project with JAERI. For users' availability, internet browser environment, which most users are familiar with, is chosen as a client interface between the databases and users. Users are able to search any data they want and obtain image files of them, by submitting queries to the database server on the web page without any requirement of additional software installation. The prototype of the server side CGI script is now being tested. One module, which inputs EXFOR to the MySQL database, can be used as an efficient checker to find illegal codes in an EXFOR entry.

6. Data services for Japanese Users

We support Japanese researchers both in energy and in non-energy field for experimental nuclear data (NRDF and EXFOR). Recently number of EXFOR users is growing in Japan. For example, people who study nuclear radii by using diffraction patterns of proton scatterings cited EXFOR for high energy elastic scattering angular distribution data around 1 GeV (c.f. A. Kohama *et al.*, Phys. Rev. **C69** (2004) 064316). Introductory seminar for nuclear database was done at RIKEN at January 2004. EXFOR+CINDA CD produced by NDS was distributed to some Japanese users.

ANNEX: Organization and members of JCPRG

Advisory committee:

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6) Services for Japanese Users

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¹ Niigata Univ. since May 2004, ² Tokyo Institute of Technology since June 2004, ³ Hokkaido Univ. since April 2004