

Japan Nuclear Reaction Data Centre (JCPRG)

Progress Report

*Nuclear Reaction Data Centre (JCPRG),
Faculty of Science, Hokkaido University
<http://www.jcprg.org>*

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0. General

The Japan Nuclear Reaction Data Centre (JCPRG) is a research center for nuclear data activities in Hokkaido University Sapporo. The main objectives of JCPRG are as follows:

- a) Compilation of nuclear reaction data for two databases, NRDF and EXFOR
- b) Evaluation of nuclear reaction data
- c) Development of software and systems for compilation and evaluation
- d) Education of the graduate school students

1. Compilation

1.1 NRDF

NRDF database is the original nuclear reaction database of JCPRG. Our initial EXFOR entries were provided by converting the NRDF format to the EXFOR format. Nowadays, both NRDF and EXFOR formats are generated simultaneously using the database creation editor HENDEL. From June 2022 to April 2023, we have compiled 61 new papers of charged particle and photonuclear reaction data.

1.2 EXFOR

Since the last NRDC meeting, we have transmitted 63 new and 15 revised entries as 6 trans and prelim files (E133-E137, J011 and K021) to the NDS open area. Our transmissions are summarized in Tables 1.

Table 1. EXFOR E-entries transmitted from JCPRG to NDS IAEA in 2022.

TRANS	TRANS Status	ENTRY Tot.	ENTRY New	ENTRY Rev.
E133	Final (2022/06/14)	2	0	2
E134	Final (2022/06/14)	11	11	0
E135	Final (2022/08/19)	30	29	1

E136	Final (2023/3/8)	13	13	0
E137	Prelim (2023/4/8)	12	2	10
J011	Final (2022/08/19)	2	2	0
K021	Final (2022/08/19)	8	6	2

2. System Development

2.1 Data Retrieval System

We have 3 data retrieval systems mentioned below.

- NRDF (<http://www.jcprg.org/nrdf/>)
- NRDF/A (<http://www.jcprg.org/nrdfa/>)
- EXFOR/ENDF (<http://www.jcprg.org/exfor/>)

The relational database management system MySQL has been adopted for the databases to search and retrieve NRDF, EXFOR and ENDF data. For EXFOR, new trans files are copied from the NDS open area, and the MySQL database is updated periodically.

2.2 Coding Software

We have a coding editor and digitizing software applicable for the coding purpose.

- Coding editor "HENDEL" (<https://www.jcprg.org/manuals/hendel/>)
- Digitization software "GSYS" (<https://www.jcprg.org/gsys/2.4/>)