Japan Nuclear Reaction Data Centre (JCPRG)

Progress Report

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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

The 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 May 2023 to April 2024, we have compiled 33 new papers of charged-particle-induced reaction data.

1.2 EXFOR

Since the last NRDC meeting, we have transmitted 33 new and 50 revised entries as 7 trans and prelim files (E137-E142 and K022) to the NDS open area. Our transmissions are summarized in Table 1.

Table 1. EXFOR E- and K-entries transmitted from JCPRG to NDS IAEA in 2023-2024.

TRANS	TRANS Status	ENTRY Tot.	ENTRY New	ENTRY Rev.
E137	Final (2023/6/30)	12	2	10
E138	Final (2023/10/4)	9	9	0
E139	Final (2023/11/9)	8	6	2

E140	Final (2023/11/14)	16	1	15
E141	Final (2024/3/16)	23	6	17
E142	Prelim (2024/3/16)	9	9	0
K022	Final (2024/3/7)	6	0	6

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/)