Progress Report of
Nuclear Data Center of Japan Atomic Energy Agency
for April 2024 – March 2025

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## 1. General

Nuclear Data Center of Japan Atomic Energy Agency (JAEA/NDC) is working on evaluation and measurement of nuclear data for Japanese Evaluated Nuclear Data Library JENDL. The experiments mainly performed using Accurate Neutron-Nucleus Reaction measurement Instrument (ANNRI) installed in Material and Life Science Experimental Facility at J-PARC. The evaluation and related works are performed in the cooperation with Universities, Research Organizations and Companies in Japan through Japanese Nuclear Data Committee. The number of Nuclear Data Center members is 14 consisting of 7 regular staffs, 1 postdoc and 1 secretary as of April 1, 2024.

## 2. Nuclear Data Evaluation

The latest version of general-purpose nuclear data library JENDL-5 was released in Dec. 2021. Previously released special purpose files such as neutron activation cross sections and charged-particle/photon-induced reactions were incorporated into JENDL-5 with updating the data. The 16 files fixing problems found in JENDL-5 have been released as Updated Files. Evaluations of nuclear data for the next version of JENDL are in progress.

## 3. Nuclear Data Measurement

Neutron capture and/or total cross sections have been measured for the isotopes of I, Ce, Re and Am with the array of Ge or NaI spectrometer at the J-PARC/MLF/ANNRI. Neutron transmission and scattering cross sections of graphite have been measured to obtain thermal neutron scattering law.

## 4. EXFOR compilation

The recent compilation done by JAEA/NDC is listed in Table 1. The 7 articles are compiled last FY.

Table 1. recent compilation at JAEA

| entry # | reference | reaction | facility | compilation date | status |
|---|---|---|---|---|---|
| 23604 | JNST,59,1388,2022 | Np-237 $\sigma_{cap,th}$ | KUR | 20230623 | EXFOR |
| 23606 | JNST,60,489,2023 | Am-241(n,g) | J-PARC | 20230628 | EXFOR |
| 23607 | J,NST,60,678,2023 | Gd-155,157(n,g) | J-PARC | 20231208 | EXFOR |
| 23608 | J,PR/C,97,034622,2018 | La-139 RP | J-PARC | 20231110 | EXFOR |
| 23609 | J,PR/C,107,054602,2023 | Xe-131 RP | J-PARC | 20231110 | EXFOR |
| 23610 | J,NST,60,1133,2023 | Nb-93 $\sigma_{cap,th}$ | KUR | 20231211 | Compiled |
| 23611 | J,NST,60,1361,2023 | Pb-204 $\sigma_{cap,th}$ | JRR-3 | 20231213 | Compiled |
| 23612 | J,PRL,132,023402,2024 | Scattering length | J-PARC | 20240209 | Compiled |
| 23613 | J,EPJ/A,59,288,2023 | La-139(n,g),(n,tot), RP | J-PARC | 20240910 | Compiled |
| 23614 | J,NSE,198,786,2024 | Ta-181(n,g), (n,tot), RP | J-PARC | 20250216 | Compiled |
| 23615 | J,EPJ/A,60,120,2024 | I-127,129(n,g) | J-PARC | 20241017 | Compiled |
| 23616 | J,NST,61,1385,2024 | Ir-193(n,g) | J-PARC | 20250217 | Compiled |
| 23617 | J,NST,61,1415,2024 | Sc-45, Cu-63, Zn-64, Ag-109, In-113 $\sigma_{cap,th}$ | KUR | 20250219 | Compiled |
| 23618 | J,NST,62,300,2025 | Fe-58,59 $\sigma_{cap,th}$ | KUR | 20250221 | Compiled |
| 23619 | J,NST,62,XXXX,2025 | Er-170,171 Hf-180,181 $\sigma_{cap,th}$ | KUR | 20250225 | Compiled |
| 23620 | J,NST,61,459,2024 | Am-241(n,g) | J-PARC | 20250605 | Compiled |