



IAEA

International Atomic Energy Agency

Atoms for Peace and Development

IAEA Nuclear Data Section

May 2024- May 2025 Status Report

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Nuclear Data Section, IAEA, Vienna

NRDC Meeting, 17-20 June 2025, Universidad Politécnica de Madrid, Spain

Staff Changes



The authorized staff level consists of a total of 16 professionals and support staff.

The latest staff changes include:

- **Christian Hill** (Head of Atomic Data and Molecular Data Unit) rotated out in September 2024.
- **Alejandra Martinez** (Software Engineer) joined in July 2024.
- **Marco Verpelli** (Nuclear Data Analyst/Programmer) retired in April 2025.

EXFOR Transmission



Between May 2024 and May 2025, NDS finalized

- 5 neutron transmission (48 new entries+25 revised entries)
- 7 CPND transmission (39 new entries+37 revised entries)
- 3 PhND transmission (11 new entries and 6 revised entries)
- 2 EXFOR/CINDA dictionary transmission

including contributions from five centres (**ATOMKI, CNDC, KNDC, NDPCI, UkrNDC**) and two regular compilers (**Myagmarjav Odsuren, Timur Zholdybayev**).

EXFOR Transmission (cont)

Number of new entries finalized in May 2024 – May 2025
(TZ: Timur Zholdybayev, MO: Myagmarjav Odsuren)

	NDS	ATOMKI	CNDC	KNDC	NDPCI	UkrNDC	TZ	MO	Sum
Neutron	0	-	33	1	10	4	-	-	48
CPND	0	1	*	1	8	7	1	21	39
PhND	0	-	-	0	1	10	-	-	11
Sum	0	1	33	2	19	21	1	21	98

* Area S entries are transmitted by CNDC and therefore not included in these statistics.

EXFOR Quality Control



- Between May 2024 and May 2025, NDS reviewed 78 preliminary files.
- Regular checking now includes **spell checking** by the newly developed EXFOR spell checker in Python (SPELL)
- Comments received from end users are being added to the **EXFOR Feedback List**.

EXFOR Entries for Corrections (Feedback List)

[Send your comment on EXFOR entry](#)

pink: very urgent (Data, Common, Heading, Unit); yellow: urgent (REACTION, pointer); green: other

Last updated: 2025-05-17

Area	1	2	3	4	A	B	C	D	E	F	G	J	K	L	M	O	P	R	S	T	V	Total
Centre	NNDC	NEADB	NDS	CJD	CNPD	NDS	NNDC	NDS	JCPRG	CNPD	NDS	JCPRG	JCPRG	NNDC	CDFE	NEADB	NNDC	JCPRG	CNDC	NNDC	NDS	
Total	333	208	47	0	37	13	139	66	52	23	3	0	5	3	8	180	12	2	0	36	3	1170
Very urgent	44	56	22	0	19	0	31	17	4	0	1	0	0	0	0	44	1	0	0	24	0	263
Urgent	65	20	4	0	10	6	38	21	5	0	0	0	0	0	4	120	4	0	0	6	0	303
Normal	224	132	21	0	8	7	70	28	43	23	2	0	5	3	4	16	7	2	0	6	3	604

Entry #	From	Keyword	Comment	Reference	Registered
10052.002	M.Mikhailiukova	Data	Add reduced neutron widths in Table III.	N/A	2023-01-16
10052.005	M.Mikhailiukova	Data	Add reduced neutron widths in Table II.	N/A	2023-01-16
10052.008	M.Mikhailiukova	Data	Add reduced neutron widths in Table III.	N/A	2023-01-16
10052.011	M.Mikhailiukova	Data	Add reduced neutron widths in Table II.	N/A	2023-01-16

EXFOR Coverage Control



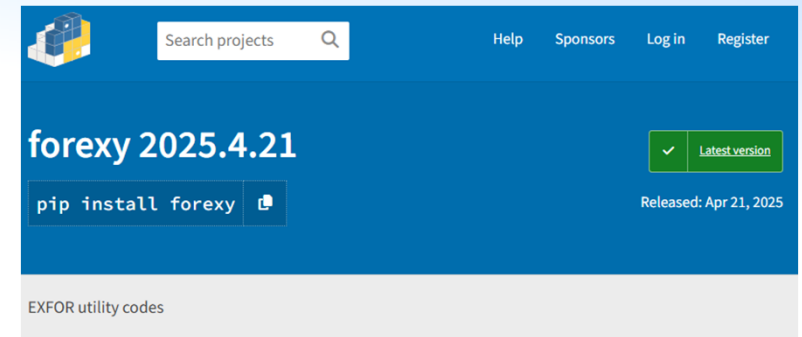
- 19 journals are regularly scanned.
- Additional 17 journals and conf. proc. (e.g., EPJ Web Conf.) were scanned until Dec. 2023. Delay in scanning of later ones.
- Record of scanning by NDS and at other centres (20 journals) are registered in X4CoCoS. **NNDC** started scanning of **Phys. Rev. Lett.**

Articles for EXFOR Compilation (Allocation List)																
Send your request of compilation																
pink: allocated more than 2 years ago. yellow: allocated 1 - 2 years ago. grey: conf. proc. published within 5 years.																
Last updated: 2025-05-20																
Centre	ATOMKI	CDFE	CJD	CNDC	CNPD	JAEA	JCPRG	KAZMON	KNDC	NDPCI	NDS	NEADB	NNDC	UKRNDC	Total	TRANS analyzed
New entries since last meeting ²	1	9	9	35	34	0	29	22	2	19	0	11	162	21	354	1510, 1511, 1512, 1513, 1514, 1515, 1516, 1517, 1518, 1519, 1520, 1521, 1522, 1523, 1524, 1525, 1526, 1527, 1528, 1529, 1530, 1531, 1532, 1533, 1534, 1535, 1536, 1537, 1538, 1539, 1540, 1541, 1542, 1543, 1544, 1545, 1546, 1547, 1548, 1549, 1550, 1551, 1552, 1553, 1554, 1555, 1556, 1557, 1558, 1559, 1560, 1561, 1562, 1563, 1564, 1565, 1566, 1567, 1568, 1569, 1570, 1571, 1572, 1573, 1574, 1575, 1576, 1577, 1578, 1579, 1580, 1581, 1582, 1583, 1584, 1585, 1586, 1587, 1588, 1589, 1590, 1591, 1592, 1593, 1594, 1595, 1596, 1597, 1598, 1599, 1600, 1601, 1602, 1603, 1604, 1605, 1606, 1607, 1608, 1609, 1610, 1611, 1612, 1613, 1614, 1615, 1616, 1617, 1618, 1619, 1620, 1621, 1622, 1623, 1624, 1625, 1626, 1627, 1628, 1629, 1630, 1631, 1632, 1633, 1634, 1635, 1636, 1637, 1638, 1639, 1640, 1641, 1642, 1643, 1644, 1645, 1646, 1647, 1648, 1649, 1650, 1651, 1652, 1653, 1654, 1655, 1656, 1657, 1658, 1659, 1660, 1661, 1662, 1663, 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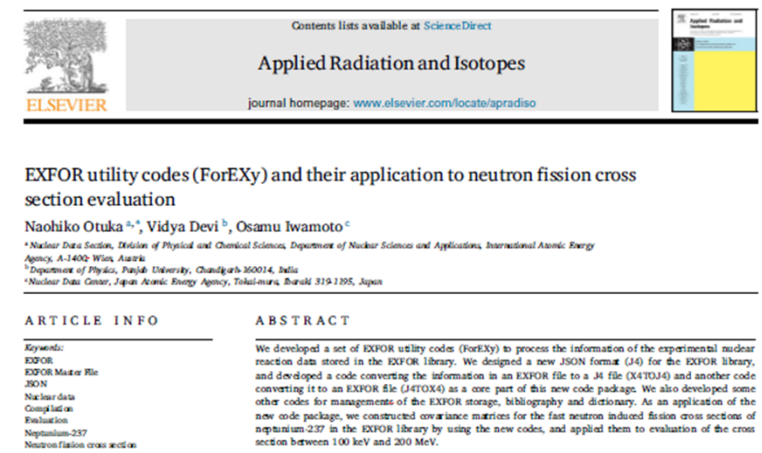
EXFOR Master File



- EXFOR Master File Ver. 2024 (**EXFOR-2024**) was released on its landing page with a **DOI**.
- Anyone can update EXFOR-2024 with the TRANS files released on the NRDC website.
- The latest snapshot (**EXFOR Entry File**) is maintained with a version control system.
- The tools for these file operations (**ForEXy**) is distributed from PyPI as an Open Source.



<https://pypi.org/project/forexy/>

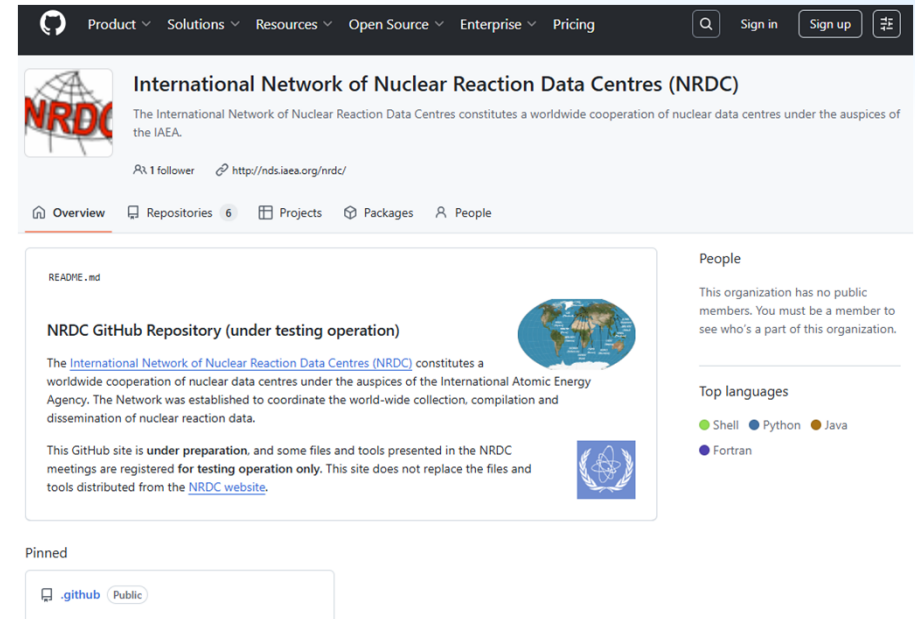


ForEXy article (accepted by ARI)

Experimental NRDC GitHub site



- We opened an experimental NRDC GitHub site to see if it is useful for exchange of tools etc.
- EXFOR Entry Files on the NRDC website are now synchronized with the repository on this GitHub site.
- A few other files and tools are deposited. This GitHub site is open for your contribution.

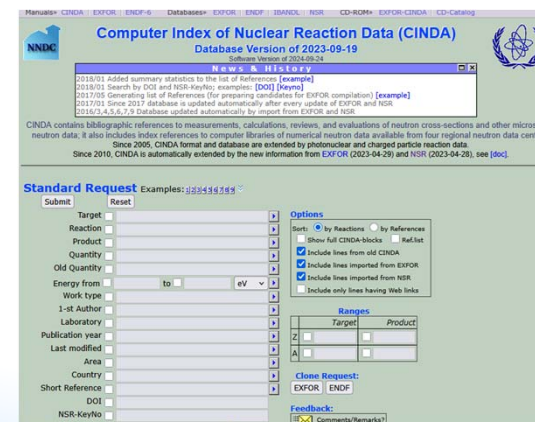
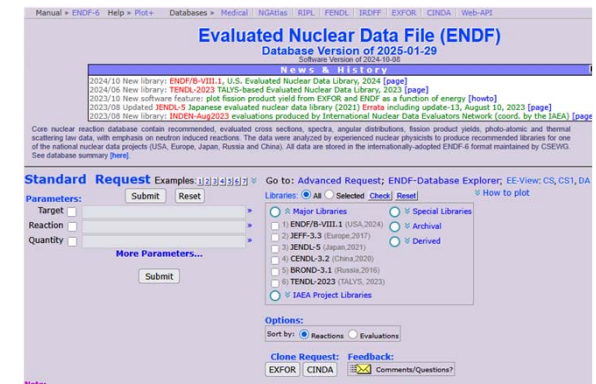
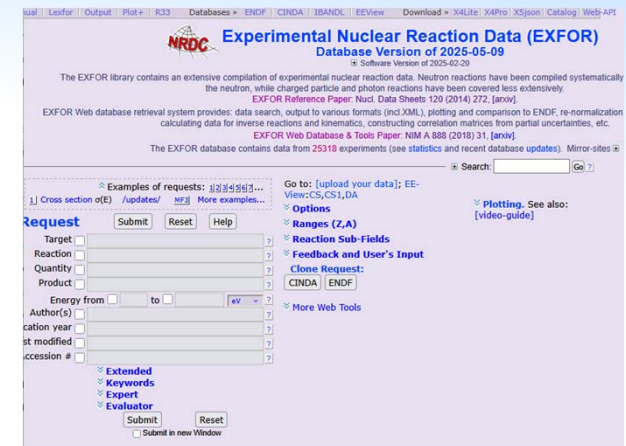


<https://github.com/iaea-nrdcnetwork>

Databases for web retrievals



- **EXFOR**: Updated when a new TRANS file is released (i.e., synchronized with EXFOR Entry File)
- **ENDF**: Updated twice for **TENDL-2023** and **ENDF/B-VIII.1**.
- **CINDA**: Last update: October 2023.



Document Services



- **27 reports** were published.
Retroactive registration of **DOI** is ongoing.

Report code	Origin	Reports
IAEA-NDS	NDS	6
INDC(BLR)	Belarus	2
INDC(EUR)	European Commission	1
INDC(JPN)	Japan	1
INDC(NDS)	NDS	17

- **2 Newsletters** (#77 and #78) were published and distributed (82 hard copies and 1176 electronic copies)



INDC(NDS)-0588 Rev.



Wolf Mannhart
Physikalisch-Technische Bundesanstalt, Braunschweig, Germany
September 2013

Nuclear Data Development

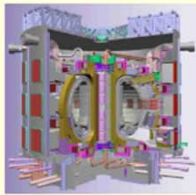


FENDL-3.2c Fusion Evaluated Nuclear Data Library

<https://www-nds.iaea.org/fendl>

[GitHub - IAEA-NDS/FENDL-ENDF: ENDF files](https://github.com/IAEA-NDS/FENDL-ENDF)

Coordinators: G. Schnabel, R. Capote, and A. Trkov



Fusion Evaluated Nuclear Data Library - FENDL-3.2c (Nuclear data supersede all previous versions of FENDL-2.x and 3.x libraries)

Coordinators: [Georg Schnabel](#), and [Roberto Capote](#), and [Andrej Trkov](#)
LAST WEBPAGE UPDATE: May 31, 2025

FENDL REFERENCE PAPER:
FENDL: A library for fusion research and applications, Nuclear Data Sheets 193 (2024), 1-78

Important note: Due to a synchronization error between the Github repository and this website, the evaluations of the tungsten isotopes in the neutron sublibrary did not match the FENDL-3.2c release, as the RRR section from ENDF/B-VIII.0 was not included. This issue was corrected on 31 May 2025. All other files, such as ACE and other application files, were correct the entire time.

The Fusion Evaluated Nuclear Data Library contains reaction data with a focus on the data requirements of fusion research facilities. Both operating and future facilities (e.g., ITER, DEMO, IFMIF) data needs are covered with current data extended up to 150 MeV. Development of FENDL libraries is described in the document links provided in the left column; links to previous FENDL releases are also listed.



Available online at www.sciencedirect.com

ScienceDirect

Nuclear Data Sheets 193 (2024) 1–78

**Nuclear Data
Sheets**

www.elsevier.com/locate/nds

FENDL: A library for fusion research and applications

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S. Kwon,¹³ D. Laghi,^{14,11} D. Leichtle,⁴ S. Nakayama,⁵ M. Ohta,¹³ L.W. Packer,⁸ Y. Qiu,⁴ S. Sato,¹³
M. Sawan,³ M. Schulc,¹² G. Stankunas,⁷ M. Sumini,¹¹ A. Valentine,⁸ R. Villari,¹⁰ and A. Žohar⁶

Nuclear Data Development



INDEN: International Nuclear Data Evaluation Network



International
Network of Nuclear
Data Evaluators

<https://www-nds.iaea.org/INDEN>

Coordinators: R. Capote, G. Schnabel, P. Dimitriou

- ☐ Developed new/updated evaluations of actinides and structural materials $^{239,240,241}\text{Pu}$, $^{233,235,238}\text{U}$, ^{232}Th (actinides) and Fe, Si, Cr, Mn, Cu, B, F-19
- ☐ All INDEN evaluations were adopted by the ENDF/B-VIII.1
- ☐ ^{233}U , ^{232}Th , Fe, Si, Mn, Cu, and F-19 were adopted for the future JEFF-4.0

ENDF B-VIII.1 Full Library

The ENDF/B-VIII.1 release is the newest evaluated nuclear data library produced, distributed, and recommended by CSEWG for use in nuclear science and technology applications. Among the many key advances, relative to the previous version ENDF/B-VIII.0, are: re-evaluation of ^{239}Pu file by a joint international effort; updated 16,18O, 19F, $^{28-30}\text{Si}$, $^{50-54}\text{Cr}$, ^{55}Mn , $^{54,56,57}\text{Fe}$, $^{63,65}\text{Cu}$, ^{139}La , $^{233,235,238}\text{U}$, and $^{240,241}\text{Pu}$ neutron nuclear data by the IAEA-coordinated INDEN collaboration; significant changes for ^3He , ^6Li , ^9Be , ^{51}V , ^{88}Sr , ^{103}Rh , $^{140,142}\text{Ce}$, Dy, ^{181}Ta , Pt, $^{206-208}\text{Pb}$, and $^{234,236}\text{U}$ neutron data; new nuclear data for the photo-nuclear, being 196 adopted from the IAEA2019 Photonuclear Data Library and one new file from JENDL-5; and new evaluations for the charged-particle and atomic sublibraries.

ENDF/B VIII.1

ENDF B-VIII.1 Full Library (907.934 MB)

Format: ENDF-6 ▾

• ENDF-6 Manual

• GNDS Manual

Download Checksum: MD5 ▾

9696a44db1aeb833502a3f128e1e957e

Nuclear Data Development

International Network of Nuclear Structure and Decay Data Evaluators (NSDD)

Coordinator: P. Dimitriou

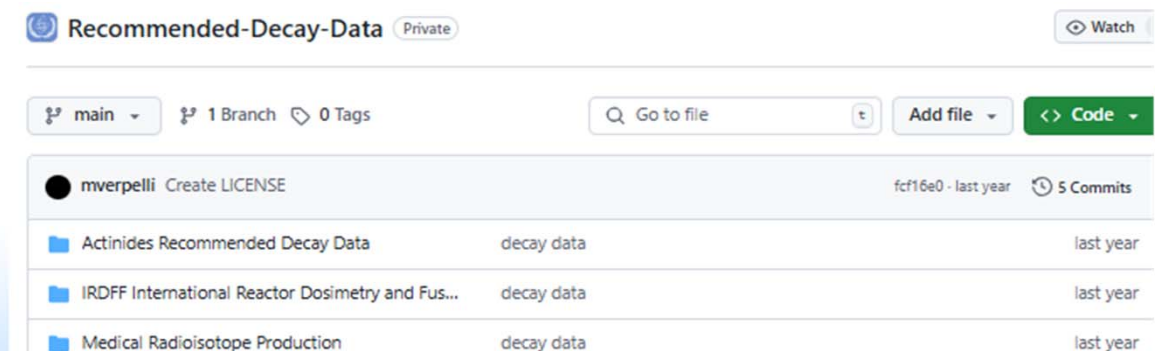
- 25th TM, 15-19 April 2024; 50th Anniversary; INDC(NDS)-0901
- Update of Electromagnetic Nuclear Moments (N.J. Stone): INDC(NDS)-0915 Rev. 2
- Decay Porta (Live Chart)!: comparison of evaluated structure and decay data from all available sources: ENSDF, IAEA CRPs, DDEP, ENDF decay-data sub-libraries

#1. ENDF/B-VIII.0 Nd-147	#2. JEFF-3.3 Nd-147	#3. JENDL-5 Nd-147	#4. DDEP-2021 Nd-147	#5. ENSDF-2025 Nd-147
Nucleus: Nd-147 ZA=60147 Library: ENDF/B-VIII.0, MAT=2034 AUTH: Conversion from ENSDF EDATE: EVAL-NOV05 Half life: $10.98 \pm 0.01(d)$ AWR: 145.654 Isomer number: LISO=0 Level number: LIS=0 Spin & Parity: 5/2- Ebeta: $268.0441 \pm 4.939273 (keV)$ Egamma: $144.1973 \pm 5.807435 (keV)$ Ealpha: $0 \pm 0 (keV)$ Decay modes: 1 Radiation types:4	Nucleus: Nd-147 ZA=60147 Library: JEFF-3.3, MAT=2047 AUTH: A.L. NICHOLS EDATE: EVAL-JUN94 Half life: $11.02 \pm 0.02(d)$ AWR: 145.654 Isomer number: LISO=0 Level number: LIS=0 Spin & Parity: 5/2- Ebeta: $270.598 \pm 15.5005 (keV)$ Egamma: $138.133 \pm 7.8428 (keV)$ Ealpha: $0 \pm 0 (keV)$ Decay modes: 1 Radiation types:4	Nucleus: Nd-147 ZA=60147 Library: JENDL-5, MAT=2165 AUTH: Conversion from ENSDF EDATE: EVAL-NOV21 Half life: $10.98 \pm 0.01(d)$ AWR: 145.654 Isomer number: LISO=0 Level number: LIS=0 Spin & Parity: 5/2- Ebeta: $295.9469 \pm 6.593113 (keV)$ Egamma: $126.056 \pm 1.614941 (keV)$ Ealpha: $0 \pm 0 (keV)$ Decay modes: 1 Radiation types:4	Nucleus: Nd-147 ZA=60147 Library: DDEP-2021 LNHB, 2013-01-04 AUTH: Laboratoire National Henri Becquerel Half life: $10.987 \pm 0.011(d)$ Spin & Parity: unknown Nuclide: Nd-147 Element: Neodymium Z: 60 Daughter(s): (B-); Pm-147; 100 Q-: 895.7 Possible parent(s): (B-); Pr-147; 100 Half-life (d): 10.987; 0.011 Half-life (s): 949.3E3; 1.0E3 Decay constant (1/s): 730.2E-9; 0.7E-9 Specific activity (Bq/g): 2.9913E15; 0.0030E15 Reference: CEA/LNE-LNHB - 2011	Nucleus: Nd-147 ZA=60147 Library: ENSDF-2025 AUTH: ENSDF 202503 by livechart20241016 Nuclide: Nd-147 Element: Neodymium Z: 60 Daughter(s): (B-); Pm-147; 100 Q-: 895.2 Possible parent(s): Jp: 5/2- Half-life (d): 11.03; 0.03 Half-life (s): 9.53E5; 2.592E3 Decay constant (1/s): 7.272E-7; 2E-9 Specific activity (Bq/g): 2.981E15; 8.198E12

- IAEA Adopted Decay Data Library on GitHub:

Recommended decay data evaluations from
CRPs and Technical Projects

<https://github.com/IAEA-NDS/Recommended-Decay-Data>



Nuclear Data Development

(alpha,n) neutron yield data for applications

Technical Officer: P. Dimitriou

- Series of Technical Meetings on (alpha,n) nuclear data evaluation and data needs for applications
 - 8-12 Nov 2021: INDC(NDS)-0836
 - 27 Nov-1 Dec 2023: INDC(NDS)-0894

- **White Paper** on (alpha,n) neutron yield data for applications

arXiv:2405.07952v3 [nucl-ex] 20 Jan 2025; to be published in J. Phys. G, 2025:

Review of Neutron Yield from (α , n) Reactions: Data, Methods, and Prospects

D. Cano-Ott,¹ S. Cebrián,² P. Dimitriou,³ M. Gromov,^{4,5} M. Harańczyk,⁶ A. Kish,⁷ H. Kluck,⁸
V. A. Kudryavtsev,⁹ I. Lazanu,¹⁰ V. Lozza,^{11,12} G. Luzón,² E. Mendoza,¹ M. Parvu,¹⁰
V. Pesudo,¹ A. Pocar,¹³ R. Santorelli,^{1,*} M. Selvi,¹⁴ S. Westerdale,¹⁵ and G. Zuzel⁶

Nuclear Data Development



Photon Strength Function (PSF)

Technical Officer: P. Dimitriou

Database programming: Sandile Jongile (iThemba LABS), Ludmila Marian

New interactive PSF database (all available experimentally derived PSF: photonuclear, NRF, neutron capture, proton capture, Oslo method: 1130 data files)

PSF Home Search Data Atlas

Photon Strength Function Database

Experimental data

The Photon Strength Function (PSF) Database contains all the experimental PSF data that were compiled by the IAEA Coordinated Research Project (CRP) on [Generating a Reference Database for Photon Strength Functions](#). The methods that have been used to extract experimental PSF data are extensively described and assessed in the CRP technical report that is published in [1], and in the recent IAEA reports [2], [3], and [4]. The data files naming convention is self-explanatory and includes: the type and multipolarity of the PSF $XL=(E1|E2|M1|1)$ (1 stands for E1+M1), if it is **experimental** or **theoretical** data, **nuclide** (Z,A), method used: NRF, OM, ARC/DRC, PG, PP, RM, **PHOTONUCLEAR**, and the NSR keynumber is added for photonuclear data. For detailed definitions, please refer to our [Glossary](#) page. Each data file is accompanied by a **README** file with the same naming convention but with the extension 'readme'. The README file contains all the information about the measurement, the experimental method, the model dependent analysis and parameters, as well as the reference.

Query the database

You can easily search the database using any combination of the available options: Z, A, XL, Method, Energy. A plot will be produced automatically based on your query. To retrieve the entire database, simply click the search button without applying any filters.

Search database

Download the database

You can download the latest version of the PSF Database in compressed format:

Download database

Version v2024.1 - released on the 1st of November, 2024
1,130 Data Files | 47,683 Data Points

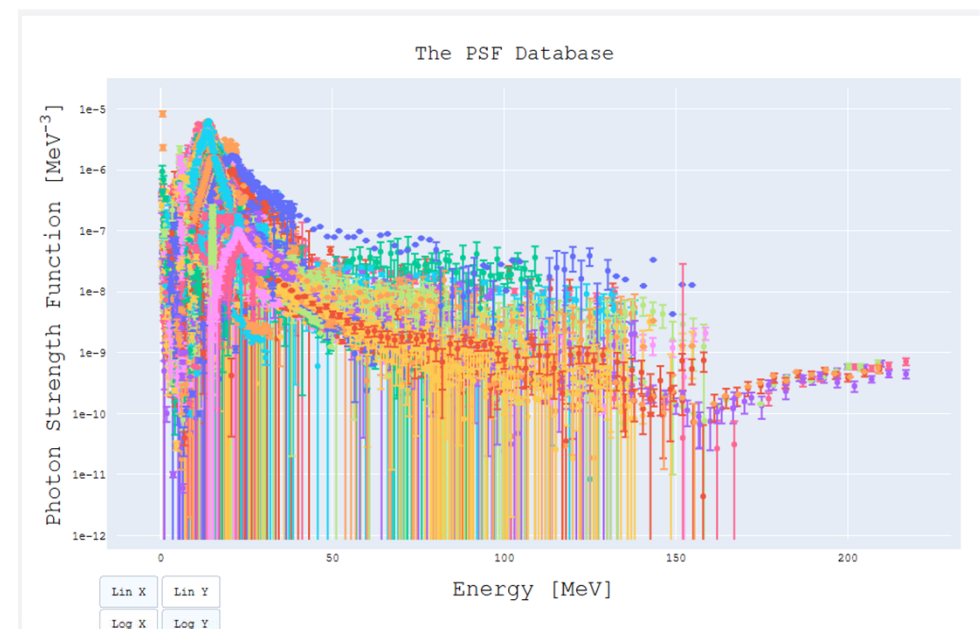
Previous releases of the database can be downloaded from the [Versions](#) page.

Cite the database

IAEA Photon Strength Function Database, version v2024.1, <https://nds.iaea.org/PSFdatabase>

Reference paper:

S. Gorieli, P. Dimitriou, M. Wiedeking et al., *The European Physical Journal A* 55, 172 (2019),



Search the Database

Z: A: Energy from: to:

Search by Z (E.g: 1,2, ...) Search by A (E.g: 1,2, ...)

XL: Method:

Select Multipolarity Select Experimental Method

For more detailed information, see the [Glossary](#).

Search Reset



IAEA

International Atomic Energy Agency

Atoms for Peace and Development

Thank you!

