



IAEA

60 Years

Atoms for Peace and Development

IAEA Nuclear Data Section

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NRDC Meeting, 9-12 May 2023, IAEA, Vienna

Staff Changes

The authorized staff level of the Nuclear Data Section (NDS) consists of a total of 16.25 professionals and support staff.

The latest staff changes include:

- **Ulrike Perstl** (Team Assistant) retired in April 2023.
- **J.-C. Sublet** and **V. Zerkin** will retire in the fall 2023.

EXFOR Transmission

Final tapes transmitted since the last NRDC meeting

- 3 neutron transmissions (19 new entries / 60 revised entries)
- 2 CPND transmissions (38 new entries / 49 revised entries)
- 1 PhND transmissions (7 new entries / 12 revised entries)

Additional three preliminary tapes (3209, D138, G050) submitted on 3 March are waiting NEA DB's review.

These include contributions from NDS, five other centres (**ATOMKI**, **CNDC**, **KNDC**, **NDPCI**, **UkrNDC**) as well as two individual regular compilers (**Myagmarjav Odsuren**, **Timur Zholdybayev**).

Two regular transmissions of the EXFOR/CINDA dictionaries.

EXFOR Quality Control

- Review of 71 preliminary tapes submitted by all centres.
- Checking of finalized tapes against comments from NEA DB and NDS just before release.
- Registration of comments from users and centres 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: 2023-04-27

Area	1	2	3	4	A	B	C	D	E	F	K	L	M	O	P	R	S	T	Total
Centre	NNDC	NEADB	NDS	CJD	CNPD	NDS	NNDC	NDS	JCPRG	CNPD	JCPRG	NNDC	CDFE	NEADB	NNDC	JCPRG	CNDC	NNDC	
Total	350	31	21	33	154	7	292	21	303	51	19	5	2	45	52	26	2	66	1480
Very urgent	49	23	6	2	27	4	53	12	49	23	2	2	0	9	7	1	0	27	296
Urgent	132	1	3	7	107	3	98	3	192	20	16	3	1	19	29	22	0	27	683
Normal	169	7	12	24	20	0	141	6	62	8	1	0	1	17	16	3	2	12	501

Entry #	From	Keyword	Comment	Reference	Registered
10022.012	N.Otsuka	REACTION	Use (28-NI-58(N,X)27-CO-57,,SIG).	N/A	2022-03-10
10031.002	V.Zerkin	DECAY-DATA	Radiation energy: 13700. -> 1370.	N/A	2020-11-29
10034.002	S.Simakov	ERR-ANALYS	Add The uncertainty in the total elastic scattering cross section was estimated to be ~8%.	4C-3/0420rev2	2022-08-06
10034.003	S.Simakov	FRR-ANALYS	Add The relative uncertainties in the individual differential cross	4C-3/0420rev2	2022-08-06

EXFOR Coverage Control

- Scan of 37 journal titles and registration of the identified EXFORable articles in **Article Allocation List (X4CoCoS)**.
- Registration of 19 journal titles scanned by other centres in X4CoCoS.

Regularly Scanned Journals

[Send your feedback](#)

pink: last scan more than 3 month ago.

Last updated: 2023-05-02

Journal	First scanned	Last scanned	Remark (scanned by NDS unless specified)
code	full name	volume issue published	volume issue published
AE/T	Atomic Energy	94 1 2003-01-01	132 4 2022-04-01
AJ	The Astrophysical Journal	636 1 2006-01-01	947 2 2023-04-20
AJ/L	The Astrophysical Journal Letters	636 1 2006-01-01	947 1 2023-04-10
AJ/S	The Astrophysical Journal Supplement Series	162 1 2006-01-01	265 2 2023-04-01
ANE	Annals of Nuclear Energy	27 1 2000-01-01	189 1 2023-09-01
APP/B	Acta Physica Polonica B	34 1 2003-01-01	54 3 2023-03-01
ARI	Applied Radiation and Isotopes	54 1 2001-01-01	196 1 2023-06-01

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: 2023-05-02

Centre	ATOMKI	CDFE	CJD	CNDC	CNPD	JCPRG	KAZMON	KNDC	NDPCI	NDS	NEADB ³	NNDC	UKRND	Total	TRANS analyzed
New entries since last meeting ²	9	6	9	17	25	61	7	5	19	17	44	130	2	351	1493, 1494, 1495, 1496, 1497, 1498, 1499, 1500, 1501, 1502, 1503, 2308, 2309, 2310, 2311, 2312, 3208, 4204, 4205, 4206, 4207, 4208, 4209, 4210, 4211, A099, A100, A101, A102, A103, B034, C211, C212, C213, C214, C215, C216, C217, C218, C219, C220, C221, D137, E133, E134, E135, E136, F088, F089, F090, F091, F092, F093, F094, G049, J011, K021, L049, L050, M118, M119, M120, M121, M122, O086, O087, O088, O089, O090, O091, O092, S031, S032, V040, V041
Revised entries since last meeting ²	21	75	165	26	295	5	0	5	23	56	406	198	9	1284	
Articles not transmitted yet in EXFOR entries ¹	6	7	1	146	51	163	26	33	47	29	380	533	22	1464 ⁴	

- Number of articles excluding conference proceedings published within 5 years. (Conference = Articles registered with conference codes as well as APP/BS, EPJ/CS, JP/CS, NSTP, NSTS, AIP-, JAEA-C-)
- Number of entries transmitted after preparation of the full summary (WP2022-02) for the last NRDC meeting (2022-06-01). The date of uploading to the NDS Open area is considered as the date of the transmission.
- Including articles for compilation by JAEA.
- Including 20 articles not assigned to any centre or assigned to JAEA.

Entry#	1st author	Reference	Published	Centre	Registered	Memo	Comment
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Web Services (ENDF)

- new and updated evaluated libraries in the ENDF database:
 - TENDL-2021 TALYS-based Evaluated Nuclear Data Library
 - INDEN-Oct2022 evaluations produced by International Nuclear Data Evaluation Network (INDEN) coordinated by the IAEA)

- software news:
 - plotting covariances for angular distributions of secondary particles MF34
 - plotting covariances of the average number of neutrons per fission MF31
 - API for search and download data of MF4 with uncertainties from MF34

Web Services (EXFOR)

- Web interface connecting EXFOR to International Nuclear Information System **INIS** (experimental: for ANL, BARC, CEA, FEI, JINR reports only)
- **X5** - comprehensive presentation of EXFOR in **JSON** including meta-data, dictionary-info, original and computational data, data for renormalization (available on Web and in X4Pro)
- **CSV** - comma separated values of EXFOR data in original, basic and computational form for Excel and other Applications (Web)
- X5 and CSV Web interface: downloading to Excel and other Apps, Html presentations as interactive tree and tables

Web Services (EXFOR-ENDF)

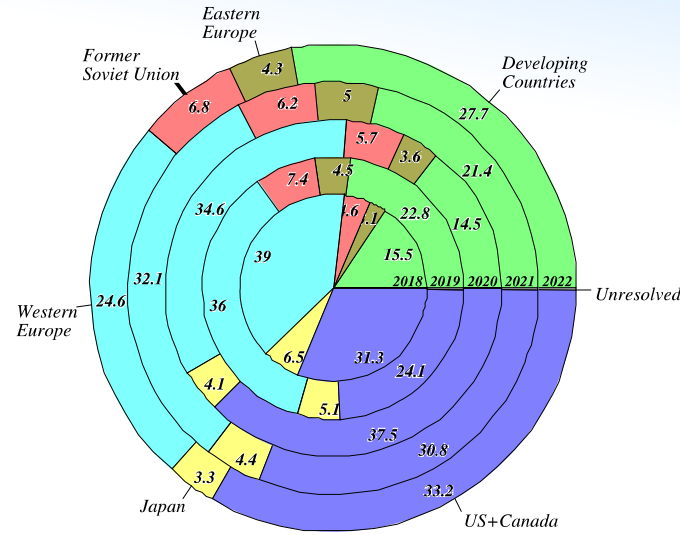
- **EE-View** - fast experimental-evaluated data viewer (implemented for cross sections and angular distributions with uncertainties)
- **X4Pro** - fully relational EXFOR database with meta-data and experimental data points in original and computational form; X4Pro/MariaDB works on Web; X4Pro/SQLite is available for downloading, comes with a lot of examples on Python and Fortran for usage with Plotly, Matplotlib, CouchDB
- **Web-API** for search/downloading data from EXFOR/X4Pro and ENDF databases

Web Statistics (2018-2022)

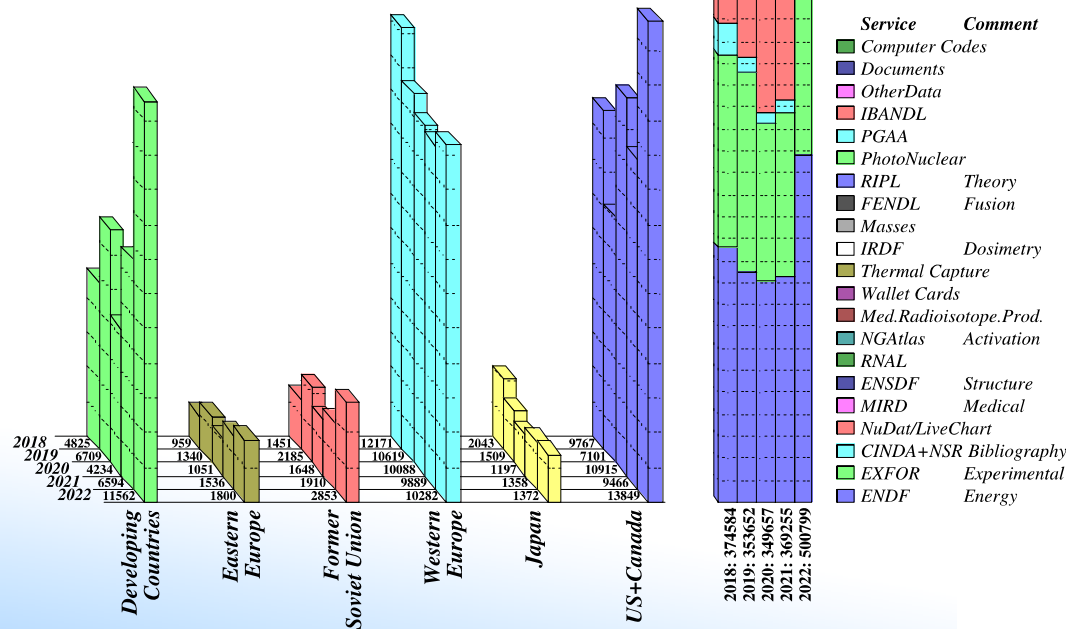


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Note.
2022: significant growth due to NNDC Web EXFOR and ENDF services have been redirected to NDS Web system





Documents

Documents produced by the Nuclear Data Section and shared via links to our webpage (May 2022 – April 2023)

Code	Origin	Reports
IAEA-NDS	Nuclear Data Section	3
INDC(JPN)	Japan	1
INDC(NDS)	Nuclear Data Section	15
INDC(SEC)	NDS Secretariat	1



Newsletters

- Two issues of the Newsletter (73 and 74).
- 89 recipients of hardcopies and 1238 recipients of electronic version.

Nuclear Data Development

INDEN network (3 CM/TM per year), files adopted by JEFF/ENDF/B

Coordinated Research Projects (CRP)

- Recommended Input Parameter Library (RIPL) for fission cross section calculations (2017-2023)
- Updating fission yield data for applications (2020-2025)

Data Development Projects (DDP)

- Intercomparison of PIGE analysis codes to calculate PIGE yields for the analysis of bulk samples
- Evaluation of nuclear moments
- Verification of data processing codes for generating ACE-formatted files
- Stopping power database
- Nuclear data libraries for advanced systems: Fusion devices
- Nuclear Data for Medical Applications
- Maintain the IAEA Neutron Standards file and evaluation techniques



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Thank you!





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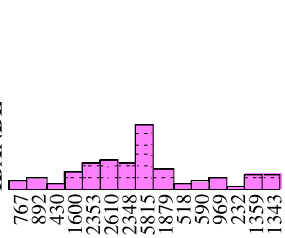
60 Years

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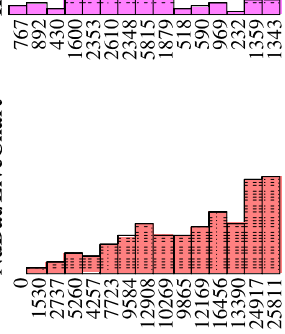


Web Statistics (main databases)

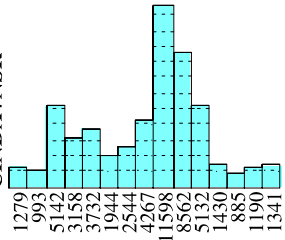
IBANDL



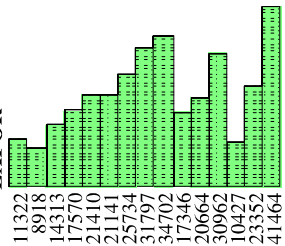
NuDat/LiveChart



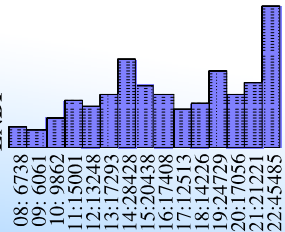
CINDA+NSR



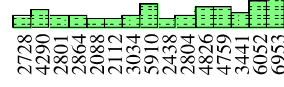
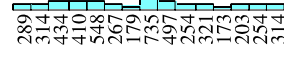
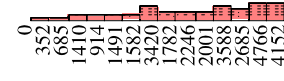
EXFOR



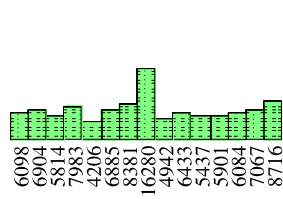
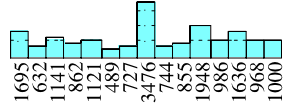
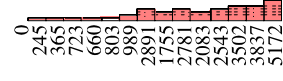
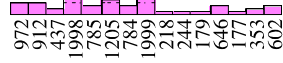
ENDF



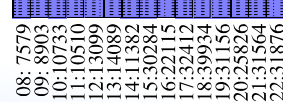
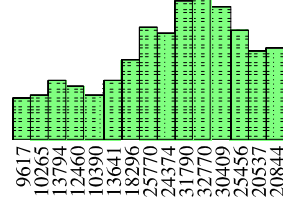
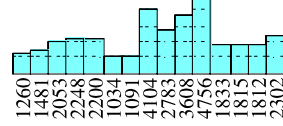
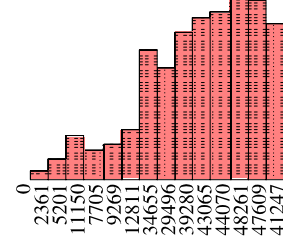
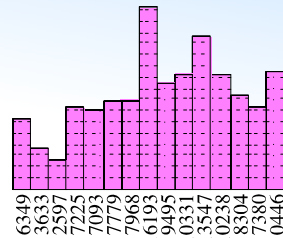
Developing Countries



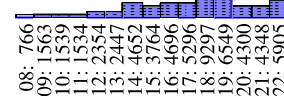
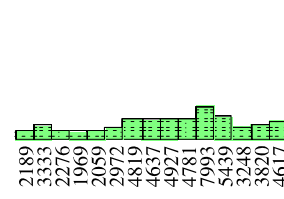
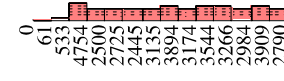
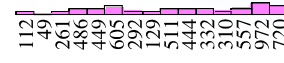
Eastern Europe



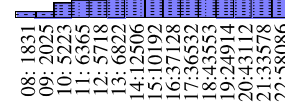
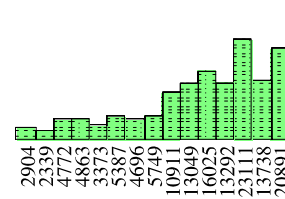
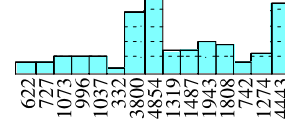
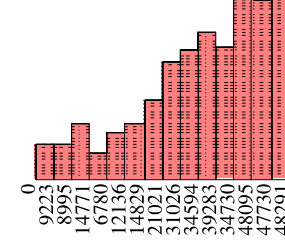
Former Soviet Union



Western Europe



Japan



US+Canada