Recent development of "Exfor" Web retrieval system, EXFOR-NSR PDF database, Web tools and software.

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Topics:

1. New in Web systems
   - News in Web databases and retrieval systems
   - New login system and news in Web-tools
   - Mirror-sites
   - News in "CDROM" distributions:
     - Portable Empire-3.2.3 for Windows-64,
     - EXFOR for Applications,
     - Grucon
   - Uploading your experimental data

2. EXFOR-NSR PDF database
   - Access to PDF database by years
   - Merging PDF collections to PDF database
   - Side-effects of using PDFs

Part I.

News in EXFOR-ENDF-CINDA

database retrieval systems

EXFOR:

- Upload user's data for constructing covariance matrix, calculating inverse reaction cross sections, etc. User's data → EXFOR format → EXFOR web system
- Recalculation of angular distributions to inverse kinematics and integration with Web IBANDL. Web EXFOR → R33 → Web IBANDL *[demo]*
- Plotting cross section coded with SF8=DAM (CS divided by atomic mass of target)
- Plotting without grouping by reaction-codes. Calculating CS ratios between different datasets on the fly *[demo]*
- Web-ZVView output: affine transformations (PS/EPS), distortion picture using 2D-calibration (GIF) to check digitization result *[demo]*

ENDF:

- Plotting MF23: "Smooth" Photon Interaction Cross Sections
- ENDF/B-VIII.β3,β4, U.S. Evaluated Nuclear Data Library (preliminary)
- FENDL-3.1b Fusion Evaluated Nuclear Data Library, 2016 [page]

CINDA:

- Links to NSR PDF files

News in Web tools (2016-2017)

login:
- "human" checking without password system

x4data: */uploading user's experimental data/*
- released for public with "human" checking

myplot: */uploading user's data to web-zvview/*
- password protection replaced by "human" checking

myEnsdf:
- dual entrance: as Guest and Evaluator
- added 4 codes from PNPI (2 checking codes, NEWGTOL, BARON, ENSDF_to_XML)
- added two viewers: Ensdf Interpreted and iTree
- Ensdf web editor is under development

myEndf:
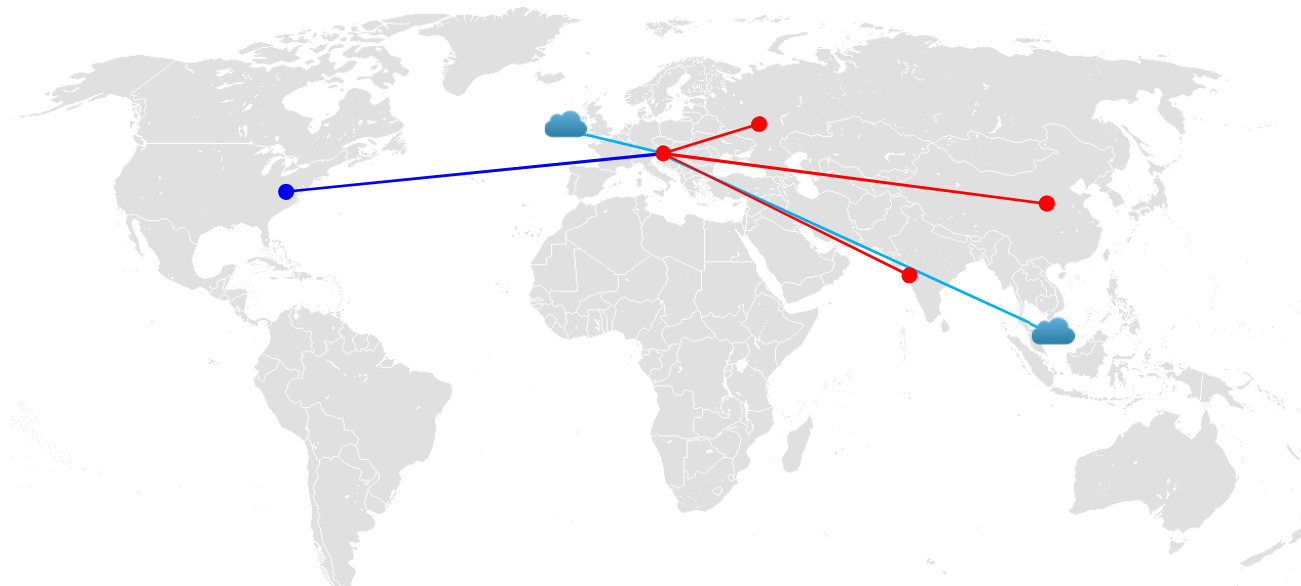- upgraded GRUCON-D to version: 20-Jun-2016

News in Web Mirror-sites

New Mirror-site in Russia:

http://www-nds.atomstandard.ru/ (Sept. 2016)

Russia
Nuclear
Data
Services

"Atomstandart"
//Rosatom//
Moscow

Now EXFOR Web system is available on:

- IAEA-NDS   https://www-nds.iaea.org/exfor/
- NNDC, USA   http://www.nndc.bnl.gov/exfor/
- BARC, India   http://www-nds.indcentre.org.in/exfor/
- CNDC, China   http://www-nds.ciae.ac.cn/exfor/
- "Atomstandart", Russia   http://www-nds.atomstandard.ru/exfor/

Limitations of EXFOR system on Mirror-sites

- No archival EXFOR Entries
- ~~No links to PDF's~~   Implemented in May-2017 *[demo]*
- No PDF's

News in CDROM distribution

EMPIRE distribution:

- stopped web downloading of "Portable Empire for Windows" (problem with Tcl/Tk license): June 2016
- Created own binary Tcl/Tk package and resumed Portable Empire-3.2.2 for Windows distribution
- Created version "Portable Empire-3.2.3 for Windows-64" for distribution (includes XC4 for full EXFOR)

EXFOR database retrieval systems:

- New version of "EXFOR-CINDA for Windows" (April 2017)
- New version of "EXFOR-CINDA for Application with ENDVER/GUI for Windows/Linux/Mac" (April 2017)

GRUCON:

- New version of December 2016

New login to uploading systems

http://www-nds.iaea.org/exfor/

We check only that user is "human" (to stop robots)

- /x4data/ Uploading experimental data

- /myplot/ Upload data and plot

- MyEnsdf: Guest and Evaluator   myensdf.htm

- common Login system

First entrance

Second entrance

Random number

User's input
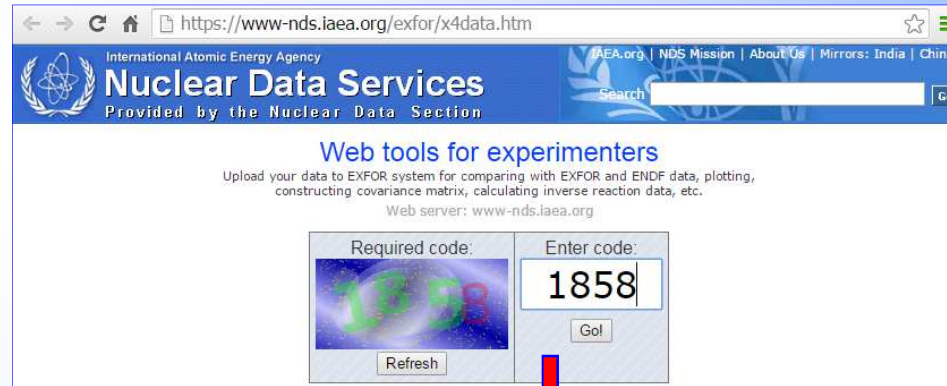
NDS Web server applications

MyPlot	Upload and plot users' data with Web-ZVView (2009)
MyExfor	EXFOR uploading system for EXFOR compilers (2010-2017)
	Zchex, Zorder, Xtract, X4toc4; Web-Exfor
MyEndf	ENDF uploading system (2010-2017)
	Checkr, Fizcon, Stanef, Psyche, Inter, Prepro, Endver, Fudge, Grucon, Web-Exfor-Endf
MyEnsdf	ENSDF uploading System (2011-2017)
	Fmtchk, chk_ENSDF, Prepro, Xpqchk, Alphad, Gtol, BrIcc, BrIccMixing, Gabs, Logft, Pandora, Radlst, Ruler, Ndspub, added: vewers (ensdf+, ensdf±), web-editor
Empire-3.1	Web Interface to Empire-3.1 /test-version/ (2013)
x4data	Uploading experimental data as text to EXFOR system for constructing covariance matrices, plotting, inverse reaction calculations, etc. (2015)

Uploading your experimental data

http://www-nds.iaea.org/exfor/ x4data.htm

Uploading your experimental data /cont./

Submit   Reset

Author: C.Sage, at al.

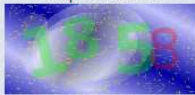Reaction: 95-AM-241(N,2N)95-AM-240,,SIG   ?

Method: TOF   ?

- Data   Examples: [1] [2] [3] [4] [5]
  - Data description
    Uncertanties Δy : nn-- | nn++ ; nn=7

Var:	{X}	{Y}	{ΔY}1	{ΔY}2	{ΔY}3	{ΔY}4	{ΔY}5	{ΔY}6	{ΔY}7
Header:	EN ▼	DATA ▼	ERR-TOT ▼	MONIT-ERR ▼	ERR-1 ▼	ERR-2 ▼	ERR-7 ▼	ERR-8 ▼	ERR-3 ▼
Units:	MeV ▼	mb ▼	per-cent ▼	per-cent ▼	per-cent ▼	per-cent ▼	per-cent ▼	per-cent ▼	per-cent ▼
Type:	Table ▼	Table ▼	Table ▼	Table ▼	Table ▼	Table ▼	Table ▼	Table ▼	Const ▼
Value:									1.2

```
x       y       Δy    . . . input your data below (copy/paste) . . .
8.34    96.8    6.5       1.9       5      1      .9      .3
9.15    162.9   5.7       1.9       4      1      .6      .3
13.33   241.8   4.6       1.6       2.5    1      .4      .3
16.1    152.4   4.6       2         2.1    1      .6      .3
17.16   116.1   4.4       2         1.5    1      .6      .3
17.9    105.7   4.4       2.2       1.3    .7     .7      .3
19.36   89.5    8.2       3.1       6.3    2      .6      1.3
19.95   102.1   5.8       4.1       1.4    1      .6      1.4
20.61   77.9    8.8       5.4       5.7    1.6    .6      1.4
```

Submit   Reset
☑ Submit in new Window

n	Display	Year	Author-1	Energy range,eV	Points	Reference
1)	ⓘ 🔍 95-AM-241(N,2N)95-AM-240,,SIG C4: MF3 MT16					
Quantity: [CS] Cross section						
1 ☐ +	uploaded X4 X4± Cov	2016	C.Sage+	8.34e6 2.061e7	9	+ W,SAGE,20160622
2 ☐ +	i X4 X4+ X4± T4 Cov	2016	A.Kalamara+	1.00e7 1.71e7	4	[pdf]+ J,PR/C,93,014610,2016

Data flow

Experimentalist Compiler User

Input your experimental data

Input EXFOR file

Input criteria for search

EXFOR file → Uploading

EXFOR Request

EXFOR Search ← Database

Retrieve

Plotting → ENDF Retrieval

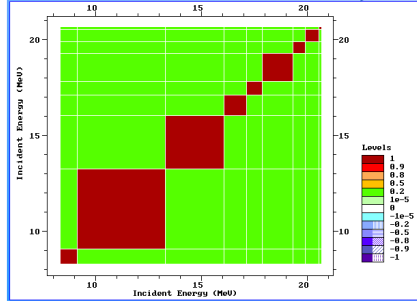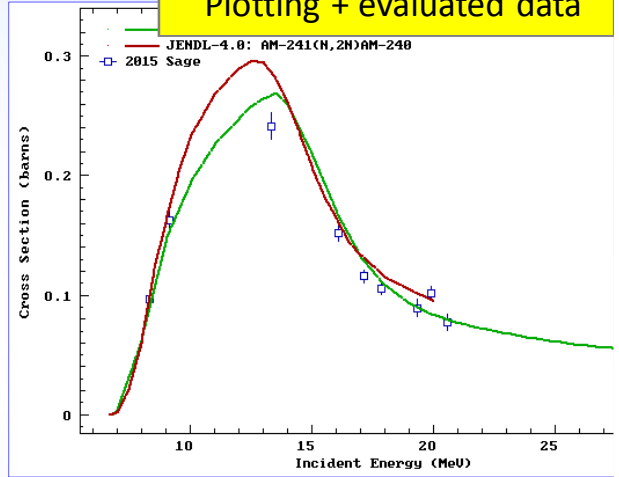Produce: C4, C5, C5M, XML, X4±, X4+, etc.

Re-normalization

Plotting + evaluated data

Constructing covariance matrices

Calculation of inverse reaction cross sections

Plotting

Save/restore recipe.xml

#ENDF Am-241 MT16:2n

$Z(10\times10): Z_{i,j} = Cor(\sigma_{Xi}, \sigma_{Yj}) * 100$

| Y (MeV) | X (MeV) | | | | | | | | | | j |
	8.34	9.15	13.33	16.1	17.16	17.9	19.36	19.95	20.61	20.61	
8.34	100	48.36	41.72	38.39	37.26	36.52	35.13	34.6	34.03	34.03	1
9.15	48.36	100	43.36	40.03	38.9	38.15	36.77	36.24	35.67	35.67	2
13.33	41.72	43.36	100	46.67	45.54	44.8	43.41	42.88	42.31	42.31	3
16.1	38.39	40.03	46.67	100	48.87	48.13	46.74	46.22	45.64	45.64	4
17.16	37.26	38.9	45.54	48.87	100	49.25	47.87	47.34	46.77	46.77	5
17.9	36.52	38.15	44.8	48.13	49.25	100	48.62	48.09	47.51	47.51	6
19.36	35.13	36.77	43.41	46.74	47.87	48.62	100	49.47	48.9	48.9	7
19.95	34.6	36.24	42.88	46.22	47.34	48.09	49.47	100	49.43	49.43	8
20.61	34.03	35.67	42.31	45.64	46.77	47.51	48.9	49.43	100	49.43	9
20.61	34.03	35.67	42.31	45.64	46.77	47.51	48.9	49.43	49.43	100	10
i	1	2	3	4	5	6	7	8	9	10	

```xml
<?xml version="1.0" encoding="UTF-8" ?>
<CovRecipe DatasetID="Z0001002" Created="2015-10-23 20:35:25" Software="Web-tool:2012.03.16">
    <Subent id="Z0001002" x4upd="20151023" />
    <Reacode code="95-AM-241(N,2N)95-AM-240,,SIG" />
    <defineErr name="Statistical" type="C5" cmd="Setup" src="Total" koeff="0.5" />
    <defineErr name="myErr-1" type="myErr" cmd="Setup" src="Systematic" koeff="0.5" />
    <defineErr name="myErr-2" type="myErr" cmd="Setup" src="Systematic" koeff="0.5" />
    <addCovarFraction errName="Statistical" errType="C5" corrType="SERC" fracType="Uncorrelated" />
    <addCovarFraction errName="myErr-1" errType="myErr" corrType="LERC" fracType="Fully-correlated" /
    <addCovarFraction errName="myErr-2" errType="myErr" corrType="MERC" fracType="MERC-correlated"
        MercType="Log" MercInterval="0.05" MercEnMin="1e-5" MercEnMax="2e7" EnUnits="eV" />
    <myStamp>EXFOR-Web-Covariance-Recipe, V.Zerkin, IAEA-NDS, 2012-03-19.</myStamp>
</CovRecipe>
```
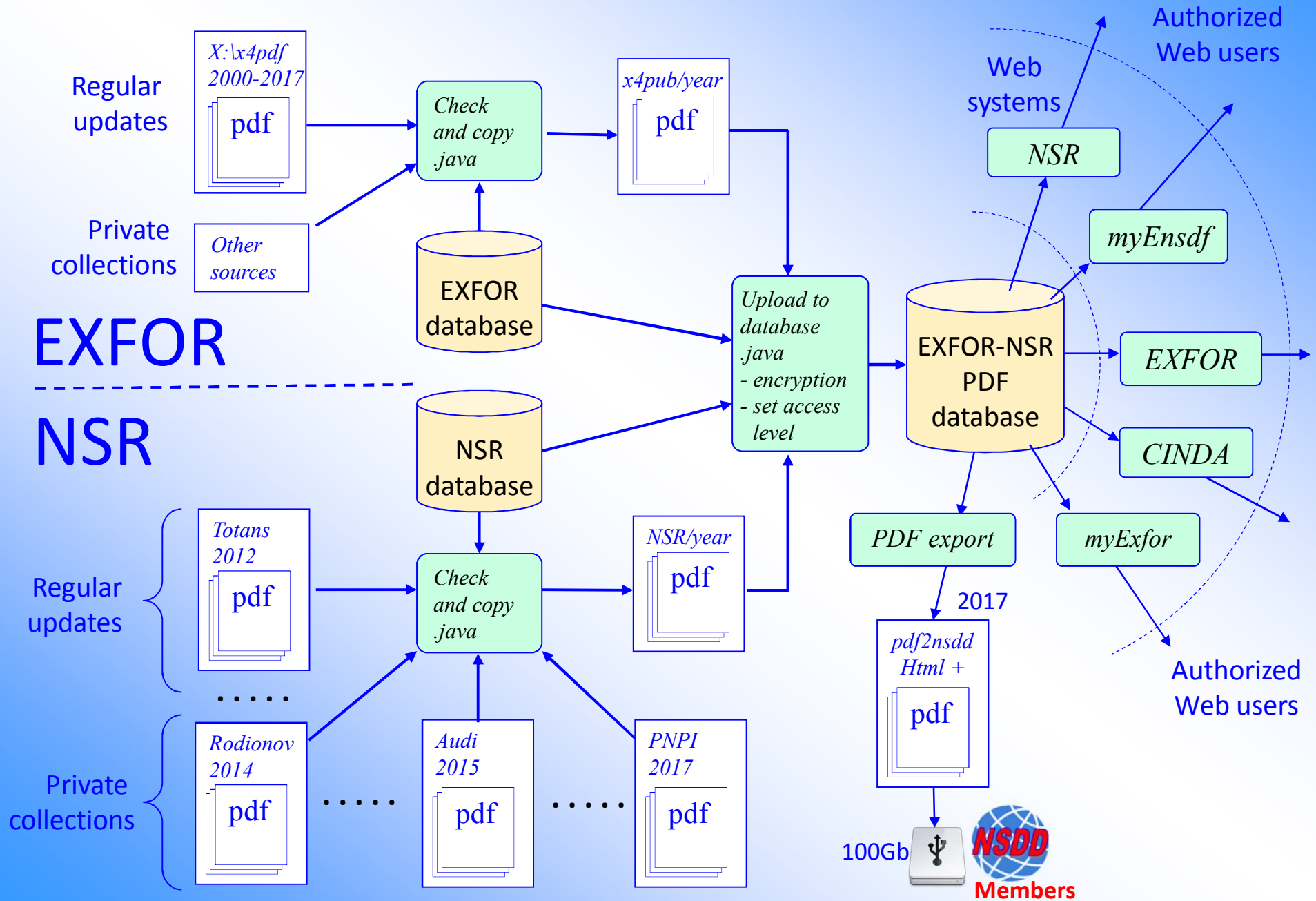
JENDL-4.0: AM-241(N,2N)AM-240
2015 Sage

Cross Section (barns)

Incident Energy (MeV)

Part II.

EXFOR-NSR PDF database

/Common NNDC-NDS project/

Functioning of EXFOR-NSR PDF database

EXFOR

NSR

Regular updates — *X:\x4pdf 2000-2017* pdf

Private collections — *Other sources*

Check and copy .java → *x4pub/year* pdf

EXFOR database

NSR database

Upload to database .java
- encryption
- set access level

EXFOR-NSR PDF database

Regular updates — *Totans 2012* pdf

Private collections — *Rodionov 2014* pdf ..... *Audi 2015* pdf ..... *PNPI 2017* pdf

Check and copy .java → *NSR/year* pdf

Web systems

Authorized Web users

NSR

myEnsdf

EXFOR

CINDA

PDF export

myExfor

2017

pdf2nsdd Html + pdf

Authorized Web users

100Gb

NSDD Members

Access to full EXFOR-NSR PDF Database

http://www-nds.iaea.org/exfor/

1) Enter to MyEnsdf as Evaluator

2) Go to PDF database:
- NSR PDF database
- Joined EXFOR-NSR database

Access to full EXFOR-NSR PDF database

X4-NSR PDF collection.
Database updated: 2017-05-12. Files: 101637 from 2000-04-19 to 2017-05-12.

Total: 101637 files from 2000-04-19 to 2017-05-12. NSR files: 73875 files

https://www.nds.iaea.org/exfo

◀ Request #149
Access-Level=2 pdf/
Results: Reactions: 10 Data:

Data Selection
[Retrieve] ● Selected ○ Un
Output: ☑X4+ ☑EXFOR

						1896:3		1898:4	1899:1	[1890-1899]:8
1910:4	1911:2	1912:1	-	-	-	-	-	1918:2	1919:1	[1910-1919]:10
1920:2	1921:2	-	-	1924:1	-	-	-	1928:4	1929:4	[1920-1929]:13
1930:2	1931:3	1932:5	1933:2	1934:4	1935:20	1936:18	1937:31	1938:29	1939:58	[1930-1939]:172
1940:52	1941:40	1942:18	1943:14	1944:19	1945:23	1946:74	1947:148	1948:161	1949:286	[1940-1949]:835
1950:386	1951:418	1952:379	1953:469	1954:544	1955:587	1956:658	1957:677	1958:901	1959:881	[1950-1959]:5900
1960:969	1961:1009	1962:1214	1963:1523	1964:1377	1965:1593	1966:1708	1967:1251	1968:1292	1969:2191	[1960-1969]:14127
1970:1814	1971:1953	1972:1651	1973:2047	1974:1614	1975:1449	1976:1402	1977:1360	1978:1401	1979:1545	[1970-1979]:16236
1980:1432	1981:1419	1982:1302	1983:1221	1984:1224	1985:1215	1986:1290	1987:1028	1988:1093	1989:1068	[1980-1989]:12292
1990:1257	1991:1072	1992:1118	1993:1344	1994:1540	1995:2144	1996:2050	1997:2133	1998:2193	1999:2396	[1990-1999]:17247
2000:2554	2001:1802	2002:1941	2003:1846	2004:2326	2005:2404	2006:2497	2007:3026	2008:2141	2009:1924	[2000-2009]:22461
2010:1904	2011:2129	2012:2069	2013:1919	2014:1747	2015:1714	2016:760	2017:94			[2010-2017]:12336

Years: 101 Publications: 101637

Full volumes: [conferences and books] [theses] [reports]

Checking mode //contributions to NSR-PDF

PDF's by contributors for checking

PDF's by years and decades with reference, title, authors, link to NSR, publishers web sites

Filter and check:
1) 201200_Totans   /3662/   16) 20170322_PNPI   /11229/
2) 201300_Totans   /1000/   17) 20170327_PNPI   /305/
3) 201400_Totans   /559/   18) 201703_Totans   /374/
4) 201500_Totans   /618/   19) 201704_Totans   /117/
5) 201510_Balraj   /263/   20) 201704_Zerkin   /132/
6) 201510_nndc2corr /11/   21) 20170508_Kondev /44/
7) 201510_Rodionov /2620/   22) 20170512_Zerkin /31/
8) 201512_Audi   /2626/   23) 201705_Totans   /841/
9) 201600_Totans   /2065/
10) 201603_Rodionov /325/
11) 201603_Shulyak /13469/
12) 201604_Kondev   /1145/
13) 201611_PNPI   /31969/
14) 201701_Totans   /284/
15) 201702_Totans   /186/
Sum: /73875/

2016

1. J,APP/B,47,789,2016 Jour: Acta Physica Polonica, Part B, Vol.47, p.789 (2016) [pdf] DOI: 10.5506/APhys
   NSR: 2016DI02 [pdf] NSR-Reference: Acta Phys.Pol. B47, 789 (2016)
   Measurement of the ^{236}U(n,f) Cross Section with the MicroMegas Detector
   M.Diakaki, A.Kalamara, M.Kokkoris, G.Marangouli, A.Tsinganis, A.Panagiotopoulos, R.Vlastou, E.Berthoumieux,

2. J,APP/B,47,841,2016 Jour: Acta Physica Polonica, Part B, Vol.47, p.841 (2016) [pdf] DOI: 10.5506/APhys
   NSR: 2016MA18 [pdf] NSR-Reference: Acta Phys.Pol. B47, 841 (2016)
   Study of the Near-barrier Scattering of ^{8}He on ^{208}Pb
   G.Marquinez-Duran, A.M.Sanchez-Benitez, I.Martel, L.Acosta, K.Rusek, M.A.G.Alvarez, R.Berjillos, M.J.G.Borge,
   L.Standylo, I.Strojek, O.Tengblad, R.Wolski, A.H.Zia

3. J,APP/B,47,859,2016 Jour: Acta Physica Polonica, Part B, Vol.47, p.859 (2016) [pdf] DOI: 10.5506/APhys
   NSR: 2016KR03 [pdf] NSR-Reference: Acta Phys.Pol. B47, 859 (2016)
   Gamma Decay of the Possible 1$^-$ Two-phonon State in ^{140}Ce Excited via Inelastic Scattering of ^{17}O
   M.Krzysiek, and the AGATA Collaboration

4. J,ARI,107,391,2016 Jour: Applied Radiation and Isotopes, Vol.107, p.391 (2016) [pdf] EXFOR: D4333 D(
   NSR: 2016TA01 [pdf] NSR-Reference: Appl.Radiat.Isot. 107, 391 (2016)
   Investigation of activation cross sections of proton induced reactions on indium up to 70 MeV for practical applicatio
   F.Tarkanyi, F.Ditroi, A.Hermanne, S.Takacs, M.Baba

Contributions to NSR PDF database as of 2017-05-16
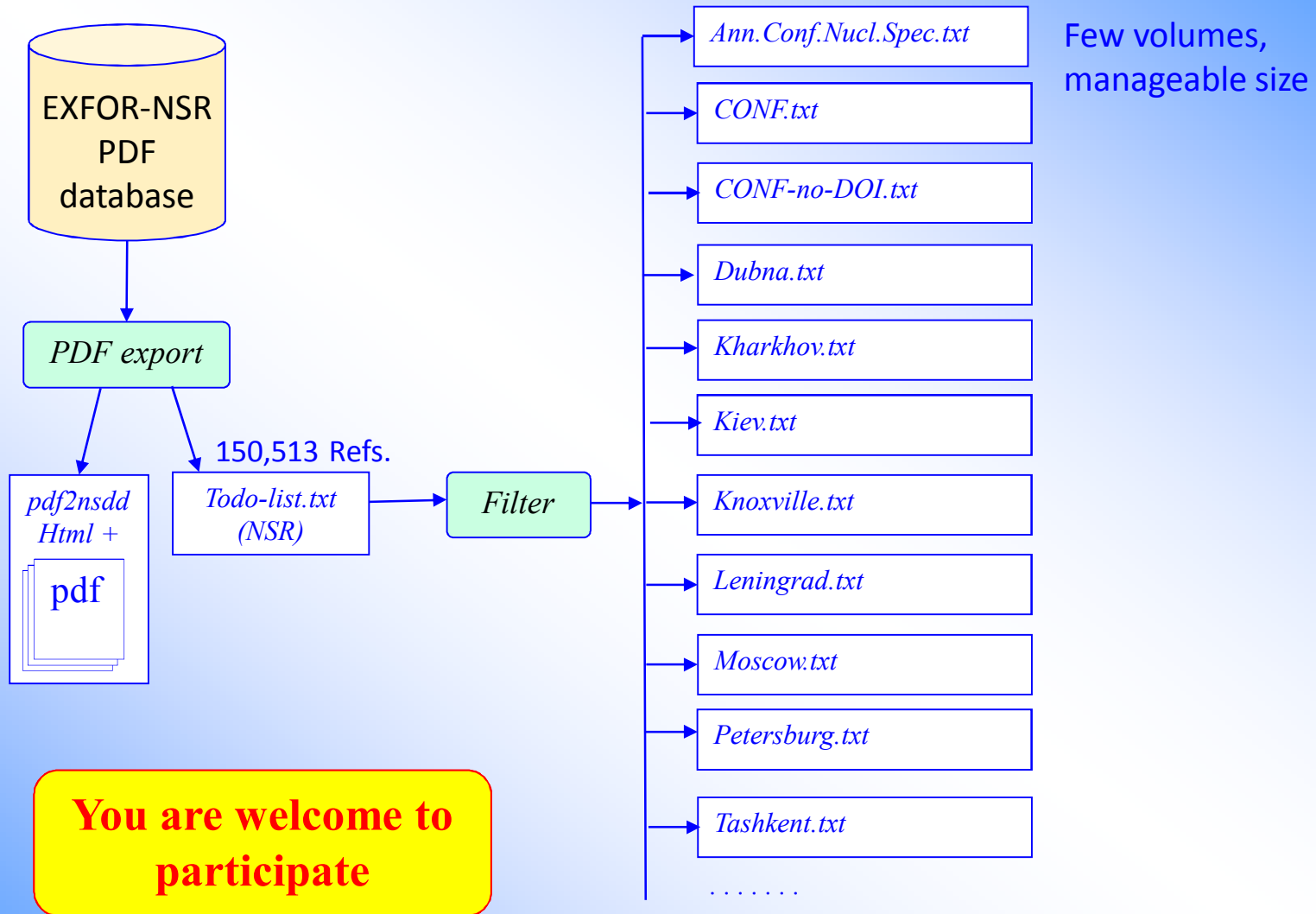
```
 1) 201200_Totans      /3662/      16) 20170322_PNPI    /11229/
 2) 201300_Totans      /1000/      17) 20170327_PNPI    /305/
 3) 201400_Totans      /559/       18) 201703_Totans    /374/
 4) 201500_Totans      /618/       19) 201704_Totans    /117/
 5) 201510_Balraj      /263/       20) 201704_Zerkin    /132/
 6) 201510_nndc2corr   /11/        21) 20170508_Kondev  /44/
 7) 201510_Rodionov    /2620/      22) 20170512_Zerkin  /31/
 8) 201512_Audi        /2626/      23) 201705_Totans    /841/
 9) 201600_Totans      /2065/
10) 201603_Rodionov    /325/
11) 201603_Shulyak     /13469/
12) 201604_Kondev      /1145/
13) 201611_PNPI        /31969/
14) 201701_Totans      /284/
15) 201702_Totans      /186/
Sum: /73875/
```

Thanks to external contributors!!!

PDF Statistics (2017-05-16)

Database	References	PDF's	PDF's incl. links X4-NSR
NSR	224,317	73,831 (**33%**)	83,811 (**37%**)
EXFOR	30,423	21,508 (**71%**)	22,133 (**73%**)
CINDA+X4+NSR	86,300	22,997 (**27%**)	30,685 (**36%**)

Mini projects for extend PDF database

EXFOR-NSR PDF database

PDF export

pdf2nsdd Html + pdf

Todo-list.txt (NSR)

150,513 Refs.

Filter

Ann.Conf.Nucl.Spec.txt

CONF.txt

CONF-no-DOI.txt

Dubna.txt

Kharkhov.txt

Kiev.txt

Knoxville.txt

Leningrad.txt

Moscow.txt

Petersburg.txt

Tashkent.txt

. . . .

Few volumes, manageable size

You are welcome to participate

Example of mini-project: ANL/NDM

```
1974GUZF    REPT Ref:ANL/NDM-4 (1974)
1975GUZF    REPT Ref:ANL/NDM-16 (1975)
1981BUZU    REPT Ref:ANL/NDM-61 (1981)
1981GUZU    REPT Ref:ANL/NDM-56 (1981)
1981GUZX x2 REPT Ref:ANL/NDM-57 (1981)
1982BUZI x2 REPT Ref:ANL/NDM-79 (1982)
1982BUZS x2 REPT Ref:ANL/NDM-73 (1982)
1982MEZW x2 REPT Ref:ANL/NDM-64 (1982)
1982SMZO    REPT Ref:ANL/NDM-74 (1982)
1982SMZP x2 REPT Ref:ANL/NDM-75 (1982)
1982SMZQ x2 REPT Ref:ANL/NDM-78 (1982)
1982SMZR x2 REPT Ref:ANL/NDM-72 (1982)
1982SMZS    REPT Ref:ANL/NDM-69 (1982)
1982SMZT x2 REPT Ref:ANL/NDM-63 (1982)
1982SMZU x2 REPT Ref:ANL/NDM-76 (1982)
1982SMZV x1 REPT Ref:ANL/NDM-70 (1982)
1982SMZW x2 REPT Ref:ANL/NDM-68 (1982)
1982SMZY x2 REPT Ref:ANL/NDM-66 (1982)
1983MEZQ x2 REPT Ref:ANL/NDM-83 (1983)
1991CHZU    REPT Ref:ANL/NDM-121 (1991)
1997POZS    REPT Ref:ANL/NDM-139 (1997)
1999SMZY    REPT Ref:ANL/NDM-142 (1999)
2000SMZW x2 REPT Ref:ANL/NDM-151 (2000)
2000SMZX    REPT Ref:ANL/NDM-150 (2000)
2000SMZY    REPT Ref:ANL/NDM-140 (2000)
2000SMZZ x2 REPT Ref:ANL/NDM-149 (2000)
2001SMZZ x2 REPT Ref:ANL/NDM-153 (2001)
2003SMZY x2 REPT Ref:ANL/NDM-155 (2003)
2004SMZZ x2 REPT Ref:ANL/NDM-157 (2004) Fast-Neutrons Incident on Gadolinium
2005SMZX x1 REPT Ref:ANL/NDM-161 (2005)
2005SMZY    REPT Ref:ANL/NDM-157 (2005) Fast neutrons incident on rotors: - Tantalum
```

Mistake found in NSR

Side-effects of using of PDFs

/exfor-master/backup/Errors-2017-05-10_15_11.htm

NDS, 10-May-2017 13:11:19
EXFOR Error-Report.
EXFOR Update. Files:
1) E:\x4load5\x4trans\2017-05-10\trans.e107

No Title (or many Titles)

n	Entry	Ptr	Date	Reference-1	Author-1	PDF	NSR
1	11733 + ±		1976-07-30	T.HAUGSNES.67	J.Haugsnes		
2	12386 + ±		1976-08-04	R.MDDC-103.44	W.W.Havens Jr		
3	12500 + ±		1976-08-04	R.LA-1669.8.5501	G.A.Cowen	[pdf]	
4	12515 + ±		1976-08-04	R.CRGP-458.5101	P.R.Tunnicliffe	[pdf]	
5	12669 + ±		1984-11-05	R.ANL-4097.4801	D.J.Hughes		
6	22555 + ±		1982-03-31	P.NRDC-84.9.195512	J.E.Egelstaff		
7	22568 + ±		1982-03-31	R.AERE-NP/M-89.1958	N.J.Pattenden		
8	22570 + ±		1978-03-31	R.AERE-NP/M-88.1958	N.J.Pattenden		
9	23064 + ±	34	2009-06-24	J.NIM/B.268.1283.2010	I.Dillmann	[pdf]	2010DI15
10	40010 + ±	ABC	1970-06-24	R.YFI-8.4.196912	D.L.Shpak		
11	40907 + ±	12	1986-10-12	C.84ALMAAT..143.198404	M.R.Beytin'sh	[pdf]	
12	41606 + ±	123	2015-03-02	J.IZV.40.(1).68.1976	D.Rabenstein		1976RA21
13	O0189 + ±	I	1996-03-06	J.YF.56.(1).99.1993	V.Yu.Denisov	[pdf]	

Mistake found in EXFOR

PART 1

THE THERMAL NEUTRON SPECTRUM AND TOPSY NEUTRON
SPECTRUM FISSION CROSS SECTIONS OF U^{237}

Work done by:

G. A. Cowan
G. A. Jarvis
G. W. Knobeloch
B. Warren

Written by:

G. A. Cowan

1) Title exists.
2) Mistake in author's name:
   G.A. Cowan

Side-effects of using of PDFs. Cont.

20898;21435 wrong titles

	n	Acc#	1st Author	Year	Reference	
- 1)		20898	[7] 1967 M.Bormann+		[pdf] C,66PARIS,1,225,196704	Conf: Nuclear Data For Reactors Conf., Paris 1966, Vol.1, p.225 (1967)

1) [pdf]+ Conf: Nuclear Data For Reactors Conf., Paris 1966, Vol.1, p.225 (1967)
-Measurements Of Some Fast Neutron Cross Sections With The Activation Method-.
M.Bormann, F.Dreyer, H.Neuert, I.Riehle, U.Zielinski

Wrong Title

2) [pdf]+ Prog: Report from Euratom-countries + Euratom to EANDC, No.66, p.42 (1966)
-Measurements Of Some Fast Neutron Cross Sections With The Activation Method-.

1	20898001	Info	X4	X4+		general information			
2	20898002	Info	X4	X4+	T4	Pt:15	1.34e7	1.67e7	8-O-16(N,P)7-N-16,,SIG
3	20898003	Info	X4	X4+	T4	Pt:12	1.30e7	1.67e7	12-MG-25(N,P)11-NA-25,,SIG
4	20898004	Info	X4	X4+	T4	Pt:6	1.40e7	1.67e7	16-S-34(N,P)15-P-34,,SIG
5	20898005	Info	X4	X4+	T4	Pt:10	1.30e7	1.96e7	28-NI-58(N,P)27-CO-58,,SIG
6	20898006	Info	X4	X4+	T4	Pt:10	1.25e7	1.96e7	33-AS-75(N,P)32-GE-75,,SIG
7	20898007	Info	X4	X4+	T4	Pt:10	1.30e7	1.96e7	34-SE-74(N,P)33-AS-74,,SIG
8	20898008	Info	X4	X4+	T4	Pt:10	1.29e7	1.96e7	37-RB-85(N,P)36-KR-85-M,,SIG
9	20898009	Info	X4	X4+	T4	Pt:6	1.47e7	1.96e7	16-S-32(N,T)15-P-30,,SIG
10	20898010	Info	X4	X4+	T4	Pt:7	1.49e7	1.96e7	20-CA-40(N,T)19-K-38-G,,SIG
11	20898011	Info	X4	X4+	T4	Pt:12	1.30e7	1.67e7	12-MG-26(N,A)10-NE-23,,SIG
12	20898012	Info	X4	X4+	T4	Pt:10	1.25e7	1.96e7	33-AS-75(N,A)31-GA-72,,SIG
13	20898013	Info	X4	X4+	T4	Pt:10	1.29e7	1.96e7	37-RB-85(N,A)35-BR-82,,SIG

	n	Acc#	1st Author	Year	Reference	
- 2)		21435	[6] 1966 M.J.Cabell+		[pdf] C,66PARIS,2,3,196610	Conf: Nuclear Data For Reactors Conf., Paris 1966, Vol.2, p.3 (1966)

1) [pdf]+ Conf: Nuclear Data For Reactors Conf., Paris 1966, Vol.2, p.3 (1966)
-The Ratio Of Thermal Neutron Capture To Fission For U-235-.
M.J.Cabell, L.J.Slee

2) [pdf]+ Jour: Journal of Inorganic and Nuclear Chemistry, Vol.24, p.1493 (1962)

14	21435001	Info	X4	X4+		general information	
15	21435002	Info	X4	X4+	T4	Pt:0	92-U-235(N,ABS),,ALF

Wrong Title. More data?

HARWELL MASS SPECTROMETRIC
MEASUREMENTS OF THE RATIO OF NEUTRON
CAPTURE TO FISSION FOR ^{233}U, ^{235}U, ^{239}Pu AND
^{241}Pu IN REACTOR AND MAXWELLIAN NEUTRON
SPECTRA

M. J. CABELL
ATOMIC ENERGY RESEARCH ESTABLISHMENT,
HARWELL, BERKS., UNITED KINGDOM

Demo session

1. Transformations of plots produced by Web-ZVView using 2D-calibration for checking result of digitization
   [demo]

2. Upload user's data for constructing covariance matrix, calculating inverse reaction cross sections, etc. User's data → EXFOR format → EXFOR web system
   [demo]

3. Recalculation of angular distributions to <u>i</u>nverse <u>k</u>inematics and integration with Web IBANDL. Web EXFOR → R33 → Web IBANDL
   [demo]

4. Calculating CS ratios between different EXFOR datasets on the fly (via plotting without grouping by reaction-codes)
   [demo]

5. Text search
   [demo]

Recalculation of angular distributions to inverse kinematics and integration with Web-IBANDL

Calculating CS ratios between different EXFOR datasets

Request "Quick-plot"

Use "ungroup" mode

Request #3719
Results: Reactions: 1 Datasets: 4

Data Selection

Retrieve ● Selected ○ Unselected ○ All   Reset

Output: ☑ X4+ ☑ EXFOR ☑ Bibliography ☐ TAB ☐ C4 ☐ PlotC4
Plot: ☑ Quick-plot (cross-sections ☑ ungroup ☐ Advanced plot [how-to] using ☐ C5 and ☐ convert ratios to σ
Narrow incident energy (optional), eV: Min: [   ] Max: [   ]
☐ Apply ⌄ Data re-normalization (for advanced users, results in: C4, TAB and Plots)

n   Display   Year Author-1   Energy range,eV Points   Reference

13-AL-27(N,A)11-NA-24
EXFOR Request: 3720/1, 2017-May-29 11:22:55

ENDF Find and add to the plot evaluated data.

- Select data for plotting [all] [none]
+ ☑ ■ 1) 11421004 H.O.Menlove, 13-AL-27(N
+ ☑ ■ 2) 11462002 B.P.Bayhurst, 13-AL-27(
+ ☑ ■ 3) 22703002 Y.Uwamino, 13-AL-27(N,
+ ☑ ■ 4) 22976004 W.Mannhart, 13-AL-27(N
+ ☐ 5) Use my data [example]

See: plotted data (10Kb)

Get numerical data (ratios)

Log: XY X Y Lin: XY X Y Auto-range: XY X Y Page: >> << Zoom: <> >< Grid: VH 0 V H Pts: Txt Box PL Print

Reset Repaint ☐ Legend ☐ Authors ☐ Info+ PostScript Manual options:[+] Clipboard: Copy

Shift legend: x=0 y=0 Split:0 1:xy;2:y Plot data or ratio:3 0:data; 1:ratio to dataset-1; 2:ratio to 2-nd, etc.
Data for plotting: ZVD (9Kb), send to ZVView; download ZVView; upload and plot your ZVD file

Set "Plot data or ratio" to Dataset number on the Legend

Text search in EXFOR

Text search in EXFOR

V.Zerkin, IAEA-NDS, November-December 2014

This search is based on exact matching of text-pattern with EXFOR text. The system is trying to find text in the so-called EXFOR interpreted, i.e. in the descriptive part of original EXFOR text (codes and free text, but excluding numerical data) extended by explanation of EXFOR codes from dictionaries and additional information from other databases. Several patterns can be used for search in different combinations using wildcards and logical operations. Search can be limited by specifying sections of EXFOR text defined by EXFOR structure (Keywords). Reserved symbols are: [*], [&] and [:]. See below examples of search.

Basics

1) `kerma` simple search by text-pattern
2) `-kerma` search by text-pattern (trying to find "Feshbach-Kerman-Koonin")
3) `PFNS` search text: "PFNS"

Using blank (space symbols)

1) `kerma` blank (space) is important: this example ignores text "Ackermann"
2) `kerma factor` text pattern can include blank
3) `kerma    factor` multiple blanks are squeezed to single blank (equivalent to previous line)
4) `factor kerma` find "factor kerma", but not "kerma factor" (order of words is important)
5) `Los Alamos` find text "Los Alamos" as it is done in text editors

Searching patterns in any order: using symbol & as logical AND.

1) `kerma&factor` search Entries having both patterns in any sequence, i.e. system will find Entries having kerma*factor and factor* kerma
2) `los alamos&noda` search EXFOR entries having text "Los Alamos" and "Noda" in any order

Wildcards: *

1) `factor*kerma` using * as wildcard with meaning 'anything' including empty space
2) `factor*kerma*energy` all 3 words must be in the text in the given order, namely: factor*kerma*energy
3) `mb\*mev` using * as symbol for search, but not as wildcard (i.e. as part of the text pattern)

Search with specifying Keywords (see list of Keywords below*)

1) `title:kerma` search text-pattern only in titles
2) `author:kerma` search only among authors
3) `method:reactivity` search only in descriptions of method
4) `method:(REAC)` search by EXFOR code for "Reactivity measurement" in METHOD keyword

Search in interpreted EXFOR

1) `Journal de Physique` search by journal name (original EXFOR usually contains only code "JPR/C")
2) `de Physique, Vol.27` search by name and volume
3) `institute:los alamos` search Los Alamos mentioned in INSTUTUTE keyword
4) `facility:los alamos` search experiments measured in Los Alamos

Concluding general remarks

1. Reminder. EXFOR Web retrieval system is common NRDC retrieval system. **All your comments and suggestions are very welcome!**

2. Transformations of plots produced by Web-ZVView can be used for checking result of digitization as part of regular data checking (if needed for NRDC).

3. You are welcome to contribute your private PDF collections to EXFOR-NSR PDF database available via Web for authorized compilers and evaluators.

Thank you.