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# Systems for Compilation and User Services in JCPRG

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JAPAN**

## Introduction

- Hokkaido University Nuclear Reaction Data Centre (JCPRG) has developed software, e.g. editor “HENDEL” and digitizer “GSYS”.
- In addition to the software above, we have several systems.
  - Mail archive system “Stock”
  - Data retrieval system

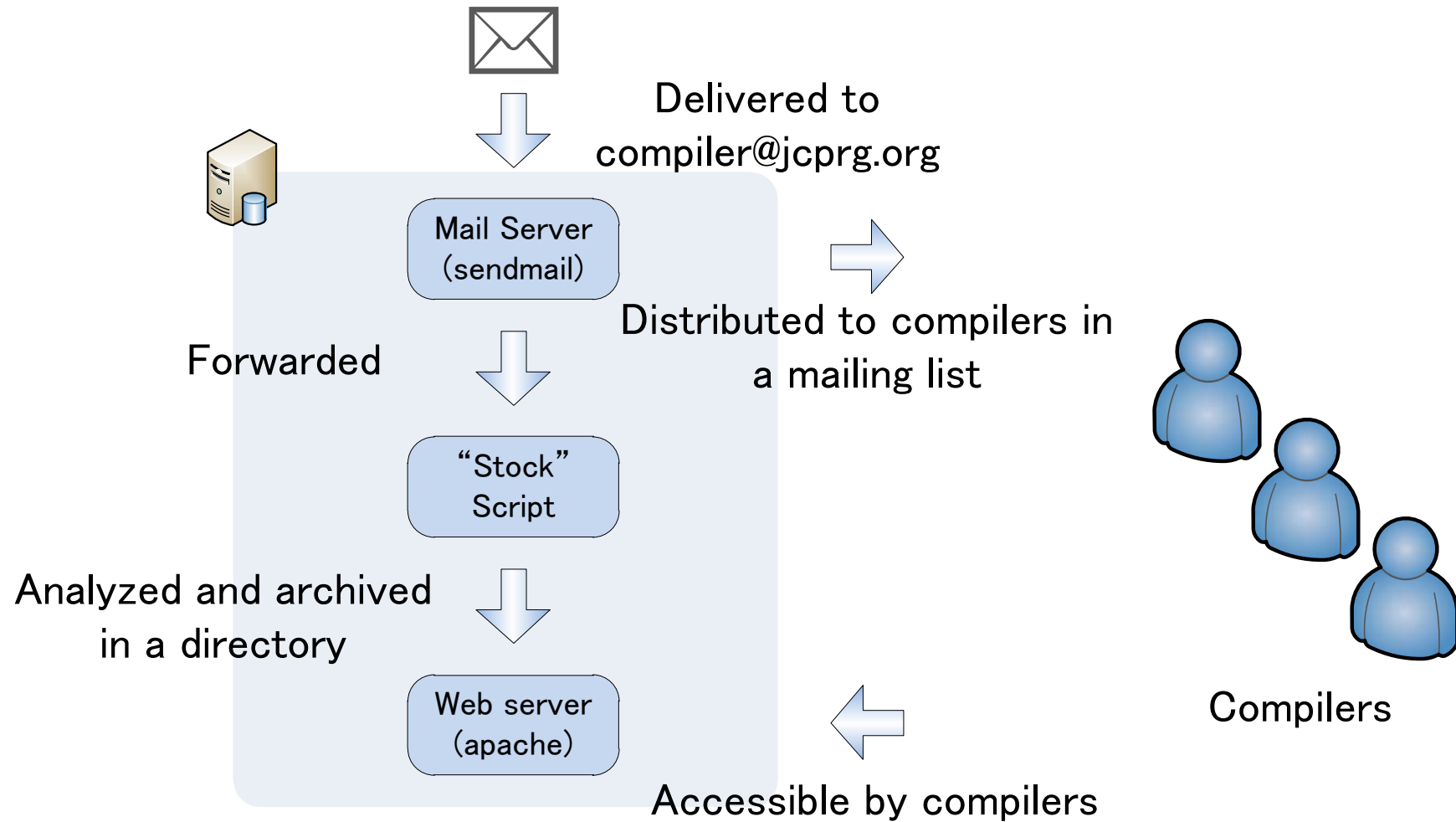


## Mail archive system “Stock”

- The “Stock” system has launched since 2004.
- “Stock” works to receive, distribute, archive and open mails.
- Now over 30,000 mails are available on the website.
- Archived mails can be searched and retrieved with the help of keywords.
- This type of system is also available to ensure the provision of readily accessible answers to users' questions in future, as proposed in the Technical Meeting on “Long-term Needs for Nuclear Data Development”.



# Flowchart of "Stock"



# "Stock"

Stock Viewer

[\[トップへ\]](#) [Hendel](#) [NRDF](#) [分担表](#)

<a href="#">d0001-d0100:10/Apr/12</a>	<a href="#">d11</a>
<a href="#">d0101-d0200:25/Jan/11</a>	<a href="#">d12</a>
<a href="#">d0201-d0300:24/May/10</a>	<a href="#">d13</a>
<a href="#">d0301-d0400:09/Mar/11</a>	<a href="#">d14</a>
<a href="#">d0401-d0500:21/Dec/09</a>	<a href="#">d15</a>
<a href="#">d0501-d0600:21/Dec/09</a>	<a href="#">d16</a>
<a href="#">d0601-d0700:14/Aug/09</a>	<a href="#">d17</a>
<a href="#">d0701-d0800:30/Mar/12</a>	<a href="#">d18</a>
<a href="#">d0801-d0900:15/Feb/11</a>	<a href="#">d19</a>
<a href="#">d0901-d1000:30/Sep/11</a>	<a href="#">d20</a>
<a href="#">d1001-d1100:15/Feb/11</a>	<a href="#">d21</a>
	<a href="#">d22</a>

Stock Viewer

[\[トップへ\]](#) [Hendel](#) [NRDF](#) [分担表](#)

<a href="#">d2301:20/Feb/12</a>	<a href="#">d2332:26/</a>
<a href="#">d2302:11/Apr/11</a>	<a href="#">d2333:26/</a>
<a href="#">d2303:22/Mar/11</a>	<a href="#">d2336:26/</a>
<a href="#">d2304:22/Mar/11</a>	<a href="#">d2337:31/</a>
<a href="#">d2305:24/Mar/11</a>	<a href="#">d2338:03/</a>
<a href="#">d2306:11/Apr/11</a>	<a href="#">d2339:07/</a>
<a href="#">d2307:24/Mar/11</a>	<a href="#">d2340:18/</a>
<a href="#">d2308:11/Apr/11</a>	<a href="#">d2341:07/</a>
<a href="#">d2309:11/Apr/11</a>	<a href="#">d2342:30/</a>
<a href="#">d2310:02/Apr/12</a>	<a href="#">d2343:05/</a>
<a href="#">d2313:05/Apr/12</a>	<a href="#">d2344:28/</a>
<a href="#">d2315:31/Mar/12</a>	<a href="#">d2345:18/</a>
<a href="#">d2316:28/Mar/11</a>	<a href="#">d2346:17/</a>
<a href="#">d2318:03/Aug/11</a>	<a href="#">d2347:06/</a>
<a href="#">d2319:10/Apr/12</a>	<a href="#">d2348:30/</a>
<a href="#">d2320:31/Mar/11</a>	<a href="#">d2349:14/</a>
<a href="#">d2321:04/Apr/12</a>	<a href="#">d2350:04/</a>
<a href="#">d2322:29/Nov/11</a>	<a href="#">d2351:02/</a>
<a href="#">d2323:29/Nov/11</a>	<a href="#">d2352:29/</a>
<a href="#">d2324:08/Jul/11</a>	<a href="#">d2353:30/</a>

d2370

[\[PL/B707\(2012\)46\]](#), 採:Vidya, 点:古立, 査:, 読:, 変:, 備:

[\[Hendel-e2370:N:E\]](#), [\[トップへ\]](#) [Hendel](#) [NRDF](#) [分担表](#) [マ](#)

[\[d2370 8\] Z.X.Cao et al., Phys.Lett.B707\(2012\)46 \(E2370\)](#)  
Tue, 10 Apr 2012 19:48:50  
■ Furutachi <furutachi@nucl.sci.hokudai.ac.jp>

[\[d2370 7\] E2370](#)  
Tue, 10 Apr 2012 19:03:28  
■ vidya@nucl.sci.hokudai.ac.jp

[\[d2370 6\] E2357, E2370](#)  
Mon, 02 Apr 2012 23:16:35  
■ Furutachi <furutachi@nucl.sci.hokudai.ac.jp>

[\[d2370 5\] E2370](#)  
Mon, 02 Apr 2012 22:28:05  
■ Furutachi <furutachi@nucl.sci.hokudai.ac.jp>

[\[d2370 4\] Re: E2370 compilation by Vidya-san with Aigar](#)  
Wed, 29 Feb 2012 17:02:54  
■ K. Yamamoto <yamamoto@nucl.sci.hokudai.ac.jp>

# "Stock"

The image shows a screenshot of a web browser with two tabs. The first tab, titled 'Stock Viewer', displays the URL [www.jcprg.org/stock/stview.cgi](http://www.jcprg.org/stock/stview.cgi). The page has a pink header with the text 'Stock Viewer' and a search bar containing the text 'aaspp'. Below the header is a navigation bar with links: [\[トップへ\]](#), [Hendel](#), [NRDF](#), [分担保](#), [マスタ](#), [辞書](#), [関係者向け情報](#), [リンク](#), and [About](#). The main content area is a table with two columns of document ranges and dates.

<a href="#">d0001-d0100:10/Apr/12</a>	<a href="#">d1101-d1200:10/Apr/12</a>
<a href="#">d0101-d0200:25/Jan/11</a>	<a href="#">d1201-d1300:25/Jan/11</a>
<a href="#">d0201-d0300:24/May/10</a>	<a href="#">d1301-d1400:24/May/10</a>
<a href="#">d0301-d0400:09/Mar/11</a>	<a href="#">d1401-d1500:09/Mar/11</a>
<a href="#">d0401-d0500:21/Dec/09</a>	<a href="#">d1501-d1600:21/Dec/09</a>
<a href="#">d0501-d0600:21/Dec/09</a>	<a href="#">d1601-d1700:21/Dec/09</a>
<a href="#">d0601-d0700:14/Aug/09</a>	<a href="#">d1701-d1800:14/Aug/09</a>
<a href="#">d0701-d0800:30/Mar/12</a>	<a href="#">d1801-d1900:30/Mar/12</a>
<a href="#">d0801-d0900:15/Feb/11</a>	<a href="#">d1901-d2000:15/Feb/11</a>
<a href="#">d0901-d1000:30/Sep/11</a>	<a href="#">d2001-d2100:30/Sep/11</a>
<a href="#">d1001-d1100:15/Feb/11</a>	<a href="#">d2101-d2200:15/Feb/11</a>
	<a href="#">d2201-d2300:15/Feb/11</a>

The second tab, titled 'pNamazu: aaspp / Nama x', displays the URL [www.jcprg.org/stock/namazu.cgi?query=aaspp&where=](http://www.jcprg.org/stock/namazu.cgi?query=aaspp&where=). The page has a dark header with the text 'Namazu による全文検索システム'. Below the header is a paragraph of text: '現在、25,281 の文書がインデックス化され、1,140,057 個のキーワードが登録されています。インデックスの最終更新日: 2012-04-10'. Below the paragraph is a link: [\[トップへ\]](#). The main content area is a search form with the following fields: '検索式: aaspp', 'Search!', '[\[検索方法\]](#)', '表示件数: 10', '表示形式: 標準', and 'ソート: スコア'. Below the search form is the text '検索結果:' and '参考ヒット数:'.

## Data retrieval system

- Our data retrieval system of EXFOR consists of Perl scripts and the relational database management system MySQL.
- The EXFOR data in the MySQL database is updated periodically.



# Flowchart of data update process



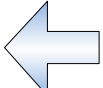
 EXFOR format

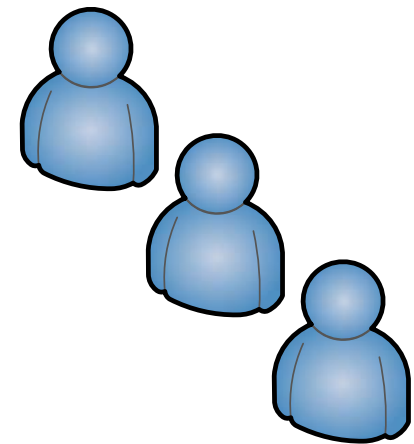
 Run “TRANStoCSV” Script

 CSV format

 Run “CSVtoMySQL” Script

 MySQL format

 Web interface for  
user access



Users



HOKKAIDO UNIVERSITY



## CSV format (Intermediate file)

### AUTHOR

```
"10001001","","R.W.,""HOCKENBURY",""  
"10001001","","Z.M.,""BARTOLOME",""  
"10001001","","J.R.,""TATARCZUK",""  
"10001001","","W.R.,""MOYER",""  
"10001001","","R.C.,""BLOCK",""  
"10001002","","R.W.,""HOCKENBURY",""  
"10001002","","Z.M.,""BARTOLOME",""
```

### REACTION

```
"10001002","","(13-AL-27(N,G)13-AL-28,,SIG,,RAW)","N","capture yield/sample thickness * 10,000"  
"10001003","","(26-FE-0(N,G),,SIG,,RAW)","N","capture yield/sample thickness * 10,000"  
"10001004","","(28-NI-0(N,G),,SIG,,RAW)","N","capture yield/sample thickness * 10,000"  
"10001005","1","(26-FE-54(N,0),,EN)","N",""  
"10001005","2","(((26-FE-54(N,EL),,WID,,G)*(26-FE-54(N,G),,WID)))/(26-FE-54(N,TOT),,WID))","C",""  
"10001005","3","(26-FE-54(N,G),,WID,,S0)","N",""
```



# Data retrieval system

The image shows a screenshot of the EXFOR/ENDF Nuclear Reaction Data Centre website and a separate window showing the physical quantity selector.

**Website: www.jcprg.org/exfor/**

**Hokkaido University Nuclear Reaction Data Centre (JCPRG)**  
**EXFOR / ENDF - Search**  
 ( 27 Mar. 2012 Updated - [new data] [feedback] [Q and A: Eng/ Jpn. ] )

EXFOR contains an extensive compilation of experimental nuclear reaction data. Neutron reactions have been compiled systematically since the discovery of the neutron, while charged particle and photon reactions have been covered less extensively. EXFOR contains data from more than 15,500 experiments. EXFOR is compiled by the Nuclear Reaction Data Centres Network (NRDC) under the auspices of the International Atomic Energy Agency (IAEA). JENDL, ENDF, JEFF, BROND and CENDL are produced based on EXFOR by JAEA Nuclear Data Center and Japanese Nuclear Data Committee (JANDC+JNDC), Cross Section Evaluation Working Group (CSWEG), NEA Joint Evaluation Project, Russian Nuclear Data Center (CJD) and Chinese Nuclear Data Center and Nuclear Data Committee of China, respectively.

[basic] [advance]  
 ( Use ";" (semicolon) for logical OR, "\*" (asterisk) for wildcard )

Search Example(1) Example(2) Example(3) Reset

Basic		
Target	3-Li-6	selector (fe-56, 56fe, he-4, a,...)
Projectile	N	selector (n, p, a, g, c-12,...)
Emission	T	selector (el, inl, f, g, x+n, n+p,2p,...)
Residual	2-HE-4	selector (fe-56, 56fe,...)
Quantity	CS	selector (CS,DA,...)
Energy (eV)		(1.0e-5:2.0e+7)
Data No.		(10468,E1901002,...)

Plot axis		
Horizontal (1)	EN	selector (EN,EN-CM,...)

**Selector for Physical quantity - Google Chrome**  
 www.jcprg.org/exfor/selector/webquant.html

**Physical quantity**

[clear form](#)

- [COR](#) (Secondary particle correlations)
- [CS](#) (Cross section data)
- [CSP](#) (Partial cross section data)
- [CST](#) (Temperature dependent cross section data)
- [DA](#) (Differential data with respect to angle)
- [DAE](#) (Differential data with respect to angle and energy)
- [DAP](#) (Partial differential data with respect to angle)
- [DE](#) (Differential data with respect to energy)
- [DEP](#) (Partial differential data with respect to energy)
- [E](#) (Kinetic energies)
- [FY](#) (Fission product yields)
- [INT](#) (Cross section integral over incident energy)
- [L](#) (Scattering amplitudes)
- [MFQ](#) (Miscellaneous fission quantities)
- [MLT](#) (Outgoing particle multiplicities)
- [NQ](#) (Nuclear quantities)
- [POL](#) (Polarization data)
- [PY](#) (Product yields)
- [RI](#) (Resonance integrals)
- [RP](#) (Resonance parameters)
- [RR](#) (Reaction rates)
- [SP](#) (Gamma spectra)
- [SQ](#) (Special quantities)
- [TT](#) (Thick target yields)
- [TTD](#) (Differential thick target yields)
- [TTP](#) (Partial thick target yields)
- [erro](#) ()



# Data retrieval system

JCPRG : EXFOR/ENDF

www.jcprg.org/exfor/work/search-777.html

JCPRG 北海道大学大学院理学研究院附属  
原子核反応データ研究開発センター  
Hokkaido University Nuclear Reaction Data Centre

NRDF | EXFOR | CINDA | ENDF | English | Japanese | Internal

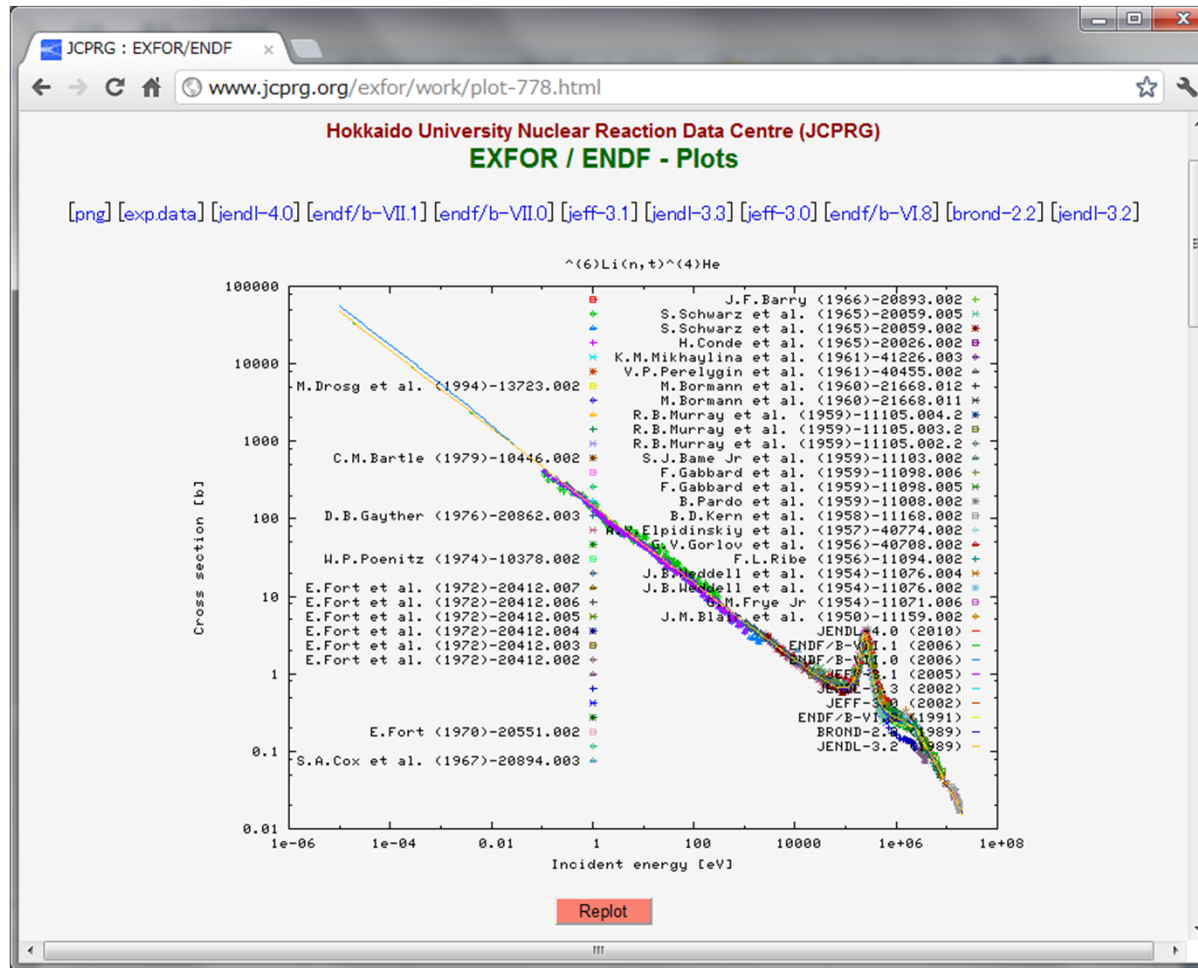
**Hokkaido University Nuclear Reaction Data Centre (JCPRG)**  
**EXFOR / ENDF - Results**  
(EXFOR: 56 hits, ENDF: 9 hits)

Plot Reset

Plot	Author	Year	Inc. energy (eV)	Work	Type	Reference	Library	Data ID
<input checked="" type="checkbox"/>	3-LI-6(N,T)2-HE-4,,SIG (Cross section)							
<input checked="" type="checkbox"/>	S.Chiba	2010	1.0e-05 2.0e+07	Eval	Data	JENDL-4.0,10,325,2010	JENDL-4.0	0325.03.105
<input checked="" type="checkbox"/>	G.M.Hale	2006	1.0e-05 2.0e+07	Eval	Data	ENDF/B-VII.1,10,325,2006	ENDF/B-VII.1	0325.03.105
<input checked="" type="checkbox"/>	G.M.Hale	2006	1.0e-05 2.0e+07	Eval	Data	ENDF/B-VII,10,325,2006	ENDF/B-VII.0	0325.03.105
<input checked="" type="checkbox"/>	G.M.Hale	2005	1.0e-05 2.0e+07	Eval	Data	JEFF-31,10,325,2005	JEFF-3.1	0325.03.105
<input checked="" type="checkbox"/>	S.Chiba	2002	1.0e-05 2.0e+07	Eval	Data	JENDL-3.3,10,325,2002	JENDL-3.3	0325.03.105
<input checked="" type="checkbox"/>	G.M.Hale	2002	1.0e-05 2.0e+07	Eval	Data	JEFF-30,10,325,2002	JEFF-3.0	0325.03.105
<input checked="" type="checkbox"/>	G.M.Hale	1991	1.0e-05 2.0e+07	Eval	Data	ENDF/B-VI,10,325,1991	ENDF/B-VI.8	0325.03.105
<input checked="" type="checkbox"/>	Nikolaev M.N.	1989	1.0e-05 2.0e+07	Eval	Data	BROND-2,10,306,1989	BROND-2.2	0306.03.105
<input checked="" type="checkbox"/>	S.Chiba	1989	1.0e-05 2.0e+07	Eval	Data	JENDL-3.2,10,325,1989	JENDL-3.2	0325.03.105
<input checked="" type="checkbox"/>	Guohui Zhang et al.	2006	1.0e+06 2.2e+06	Expt	Jour	Nucl.Sci.Eng.153(2006)41	EXFOR	32651.002
<input checked="" type="checkbox"/>	D.Rochman et al.	2006	1.1e-01 3.1e+02	Expt	Jour	Nucl.Instrum.Methods A564(2006)400	EXFOR	14108.005
<input checked="" type="checkbox"/>	D.Rochman et al.	2006	1.1e-01 2.1e+03	Expt	Jour	Nucl.Instrum.Methods A564(2006)400	EXFOR	14108.004
<input checked="" type="checkbox"/>	C.Romano et al.	2006	1.1e-01 1.1e+03	Expt	Jour	Nucl.Instrum.Methods A562(2006)771	EXFOR	14105.002
<input checked="" type="checkbox"/>	Guohui Zhang et al.	2003	1.8e+06 2.7e+06	Expt	Jour	Nucl.Sci.Eng.143(2003)86	EXFOR	32646.002
<input checked="" type="checkbox"/>	Guohui Zhang et al.	2000	3.7e+06 4.4e+06	Expt	Jour	Nucl.Sci.Eng.134(2000)312	EXFOR	32544.002



# Data retrieval system



# Data retrieval system

JCPRG : EXFOR/ENDF x

www.jcprg.org/exfor/work/plot-778.html

Plot options

point and line type: [color] [monochrome]

Title:

Label: x   
y   
z

Legend: ☐ left-top ☒ right-top  
☐ left-bottom ☐ right-bottom  
☐ below ☐ not shown

Scale: x ☐ linear ☒ log  
y ☐ linear ☒ log  
z ☐ linear ☒ log

Range: x  -   
y  -   
z  -

Angle (3D)  $\theta$    
 $\phi$

Multiplier: x   
y   
z

Format: ☐ pdf ☐ ps  
☐ eps ☐ tgz

Color: ☒ color ☐ monochrome

Legend 1:

1	JENDL-4.0 (2010)	1
2	ENDF/B-VII.1 (2006)	2
3	ENDF/B-VII.0 (2006)	3
4	JEFF-3.1 (2005)	4
5	JENDL-3.3 (2002)	5
6	JEFF-3.0 (2002)	6
7	ENDF/B-VI.8 (1991)	7
8	BROND-2.2 (1989)	8
9	JENDL-3.2 (1989)	9
10	Guohui Zhang et al. (2006)-32651.00	10
11	D.Rochman et al. (2006)-14108.005	11
12	D.Rochman et al. (2006)-14108.004	12
13	C.Romano et al. (2006)-14105.002	13
14	Guohui Zhang et al. (2003)-32646.00	14
15	Guohui Zhang et al. (2000)-32544.00	15
16	M.Drosg et al. (1994)-13723.002	16
17	E.Goldberg et al. (1985)-12954.002	17
18	C.M.Bartle et al. (1983)-30651.002	18
19	J.C.Engdahl et al. (1981)-10755.002	19

