



# Sigma: New ENDF interface

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# Project Motivation

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- ❑ ENDF/B-VII.0 library development
- ❑ ENDF/B-VII.0 paper
- ❑ ENDF/B-VII.0 dissemination?
- ❑ Sigma: New ENDF Web interface

# Desirable Features

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- Search
- Transparency
- Navigation (Browsing)
- Server-side Web application

# More Desirable Features

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- ❑ Original ENDF and Interpreted ENDF data formats
- ❑ Interactive Java plotting and easy access to plotted data
- ❑ Access to all ENDF-6 format databases and EXFOR/CSISRS
- ❑ Computational operations
- ❑ ENDF Help

# Search Prototype

- Provide
- Migratio

The screenshot displays the National Nuclear Data Center (NNDC) website interface. The top navigation bar includes the NNDC logo, the text 'National Nuclear Data Center', and the Brookhaven National Laboratory logo with a 'Home' link. Below the navigation bar, there are links for 'NNDC Databases: NuDat | NSR | XUNDL | ENSDF | MIRD | ENDF | CSISRS | CINDA'. A search box labeled 'Search the NNDC:' is present, with a 'go' button. The main content area is titled 'Evaluated Nuclear Data File (ENDF)'. Below the title, there are 'Submit' and 'Reset' buttons. A table of search results is displayed, with columns for '#', 'MAT', 'EvalID', 'Authors', 'Laboratory', and 'Date'. The table contains six rows of data, each with a checked checkbox in the first column. Below the table, there is a footer with the text: 'Web and Programming: B. Pritychenko, A.A. Sonzogni, D.F. Winchell, NNDC, Brookhaven National Laboratory. Data Source: Data are compiled at the National Nuclear Data Center.'

<input checked="" type="checkbox"/>	#	MAT	EvalID	Authors	Laboratory	Date
<input checked="" type="checkbox"/>	1	3477	3482	A. A. Sonzogni (from ENSDF)	BNL	EVAL-NOV05
<input checked="" type="checkbox"/>	2	3478	3483	A. A. Sonzogni (from NWC)	BNL	EVAL-NOV05
<input checked="" type="checkbox"/>	3	9228	3998	M. GIACRI, D. RIDIKAS, M. CHADWICK	LANL	EVAL-AUG05
<input checked="" type="checkbox"/>	4	9228	4352	Young, Chadwick, Talou, Madland, Leal	ORNL, LANL, +	EVAL-SEP06
<input checked="" type="checkbox"/>	5	9228	4609	T. R. ENGLAND ET AL		EVAL-JUL89
<input checked="" type="checkbox"/>	6	9228	4900	IAEA-CRP&NEA-WPEC(SG7)&CSEWG	IAEA	EVAL-SEP05

Web and Programming: B. Pritychenko, A.A. Sonzogni, D.F. Winchell, NNDC, Brookhaven National Laboratory.  
Data Source: Data are compiled at the National Nuclear Data Center.

# Navigation (Browsing) Prototype

Eas

The screenshot displays the National Nuclear Data Center (NNDC) website interface. At the top, there are logos for NNDC and Brookhaven National Laboratory. Below the logos, a navigation bar lists various databases: NuDat, NSR, XUNDL, ENSDF, MIRD, ENDF, CSISRS, and CINDA. The main content area features a search interface with dropdown menus for 'Library: ENDF/B-VII' and 'Sub-Library: Neutron-induced reactions'. A 'Search the database' button and a 'Plot Cart' link are also visible. A periodic table is displayed on the left side of the page, with elements color-coded by group. On the right side, a table of search results is shown, listing various data formats and their corresponding human-readable descriptions. The results table includes columns for 'ENDF-6 format' and 'Human-readable'. The results are listed for Z=94, with entries ranging from 236 to 246. The entry for 239 is highlighted with a red box. Below the results table, there is a section for 'Cross sections:' with a list of various cross-section types and their corresponding human-readable descriptions. At the bottom of the page, there is a footer with the text 'Database Manager: Mike Herman' and 'Web and Programming: B. Pritychenko, A.A. Sonzogni, D.F. Winchell'.

# Transparency Prototype

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EI

The screenshot displays the ENDF Explorer web application interface. The top navigation bar includes the NNDc logo and the Brookhaven National Laboratory logo. Below the navigation bar, the main content area is divided into three panels. The left panel shows a hierarchical tree of data files, with 'ENDF/B-VII.0' and '3-Li-6' highlighted. The middle panel shows the 'ENDF Explorer' title and 'Database Version of June 15, 2006'. The right panel shows the '3-Li-6 Neutron Index' table.

**ENDF Explorer**  
Database Version of June 15, 2006

Evaluated Nuclear (reaction) Data File Explorer Web application was developed by

**3-Li-6 Neutron Index**

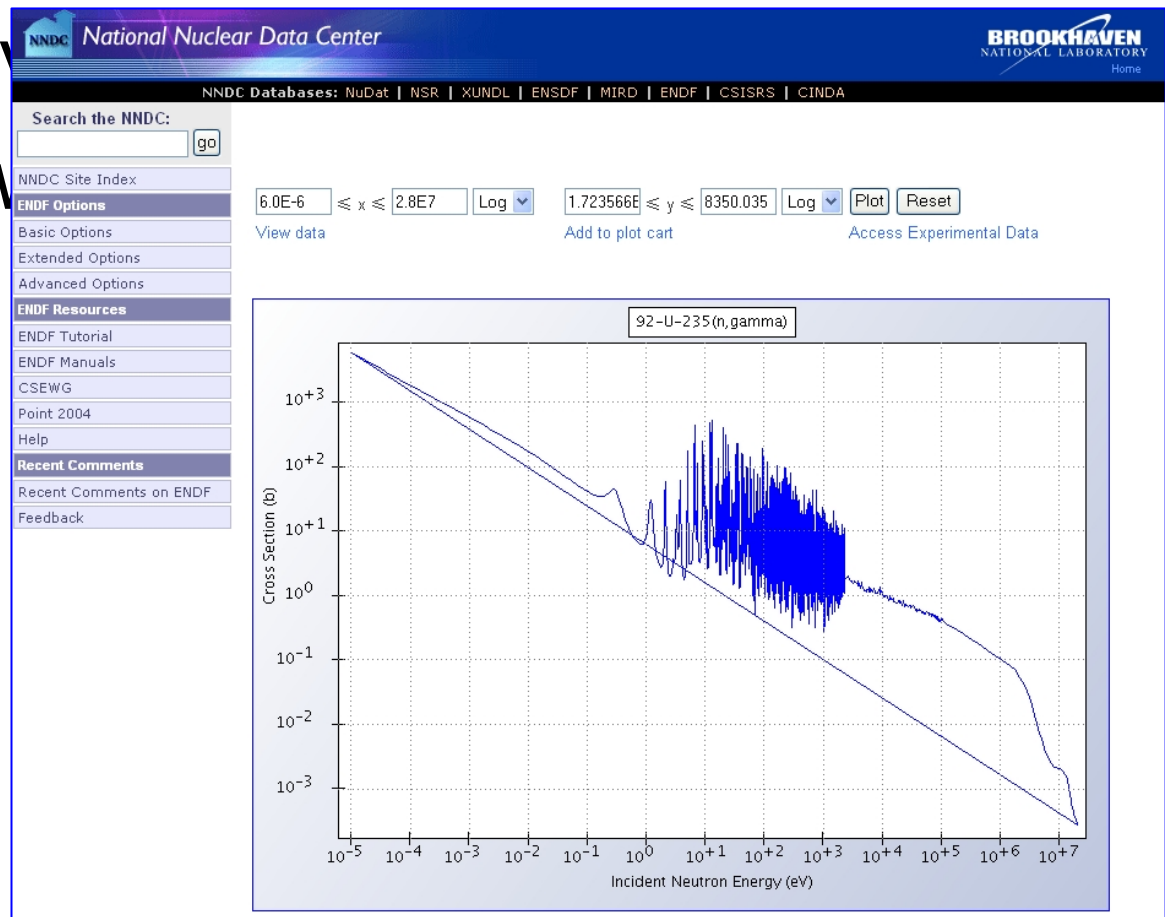
Click on the nucleus name to get the corresponding full ENDF file or on the section number for the individual components. Interpreted (human-readable) format and plots are also available.

Nucleus	mf# (Quantity)	Interpreted ENDF Data	Plots
3-Li-6	1 451	Interpreted	
	2 151	Interpreted	
	3 1	Interpreted	Plot
	3 2	Interpreted	Plot
	3 3	Interpreted	Plot
	3 4	Interpreted	Plot
	3 24	Interpreted	Plot
	3 51	Interpreted	Plot
	3 52	Interpreted	Plot
	3 53	Interpreted	Plot
	3 54	Interpreted	Plot
	3 55	Interpreted	Plot
	3 56	Interpreted	Plot
	3 57	Interpreted	Plot
	3 58	Interpreted	Plot
	3 59	Interpreted	Plot

data

# Java Plotting Package

- Standard Java
- PTOLEMY w
- NNDC Java





# Conclusion & Outlook

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- ❑ Many Sigma features are developed
- ❑ Remaining challenges:
  - ❑ Assemble in the single Web application
  - ❑ Computational capabilities
  - ❑ User requests?
- ❑ Public release: 1Q of 2007