

USNDP Web Services

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FY11 Summary

- 2,771,683 retrievals compare with 2,331,169 (FY2010)
- NuDat/Chart contribution is 1,539,542 retrievals compare with 1,247,916 (FY2010)
- Web products improvements: New front page, Sigma QA, online ENSDF & ENDF publication and checking codes (In collaboration with IAEA), NSR, IUPAC Table of Isotopes,

USNDP Web & Database Services

- <http://www.nndc.bnl.gov>
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The image displays two overlapping screenshots of the National Nuclear Data Center (NNDC) website. The top screenshot shows a Mozilla Firefox browser window with the URL <http://www.nndc.bnl.gov>. The bottom screenshot shows the main website interface, which includes a navigation menu and a grid of service links.

Navigation Menu: Main | Structure & Decay | Reactions | Bibliography | Networks & Links | Publications | Meetings

Service Grid:

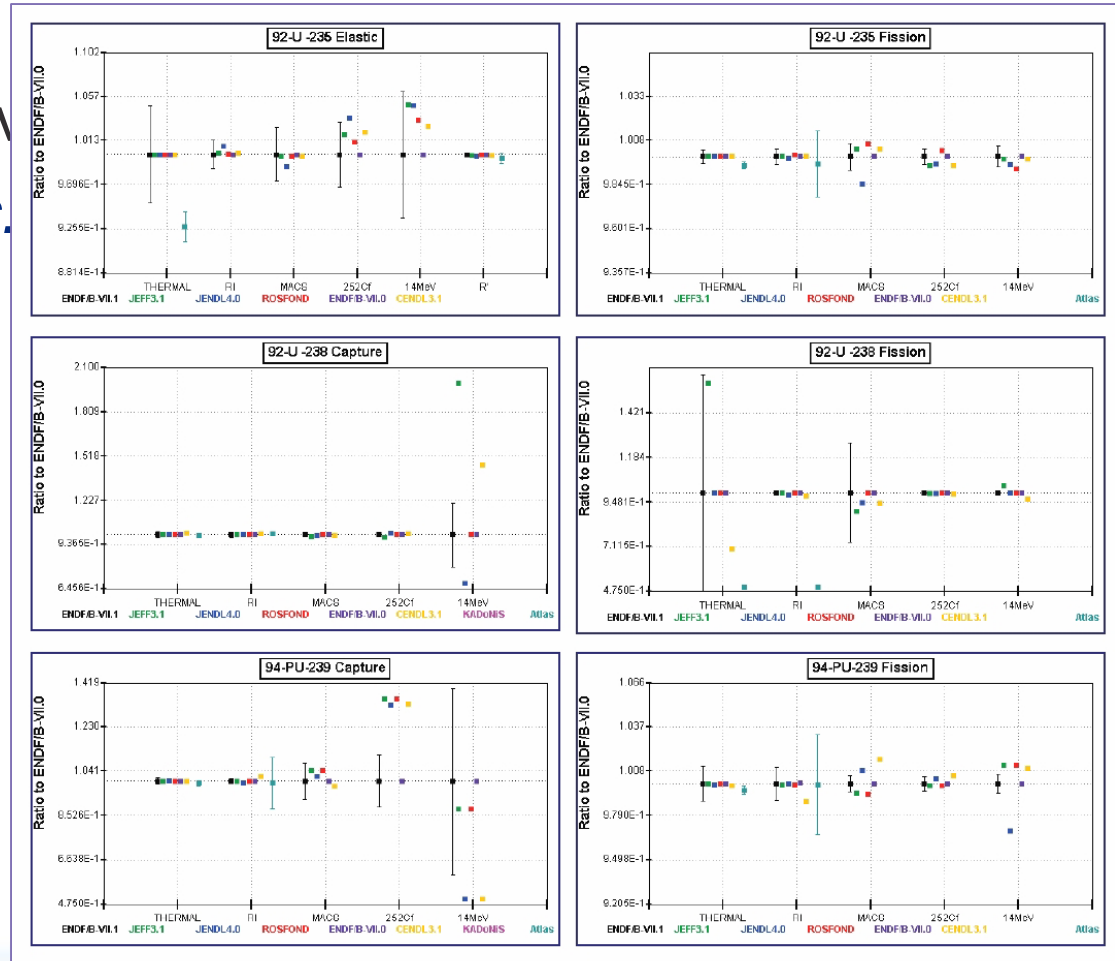
AMDC Atomic Mass Data Center, <i>Q-value Calculator</i>	Atlas of Neutron Resonances Parameters & thermal values	CapGam Thermal Neutron Capture γ -rays	Chart of Nuclides Basic properties of atomic nuclei
Covariances of Neutron Reactions	CSEWG Cross Section Evaluation Working Group	CSISRS alias EXFOR Nuclear reaction experimental data	Empire Nuclear reaction model code system, <i>Reference paper</i>
ENDF Evaluated Nuclear (reaction) Data File, <i>Sigma</i>	ENSDF Evaluated Nuclear Structure Data File	IRDF International Reactor Dosimetry File	MIRD Medical Internal Radiation Dose
NMMSS & DoE NMIRD Safeguards & inventory decay data standards	NSR Nuclear Science References	Nuclear Data Sheets Nuclear structure & decay data journal, <i>Special Issues on reaction data</i>	Nuclear Wallet Cards Ground & isomeric states properties, <i>Homeland Security version</i>
NucRates MACS & Astrophysical reaction rates	NuDat Nuclear structure & decay Data	USNDP U.S. Nuclear Data Program	USNDP/CSEWG GForge Collaboration Server
XUNDL Experimental Un-evaluated Nuclear Data List			

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Sigma QA

- A. Sonzogni, dev
- <http://www.nndc.gov>



ENDF & ENSDF codes online

The screenshot displays the myENSDF web interface in a Mozilla Firefox browser. The main heading is "Run ENSDF Analysis Codes on Web" by V.Zerkin, IAEA-NDS, April 2011, with a note that it is "under development". The interface includes a form for user information (Name: Boris) and ENSDF file details (File: ENS4up00013.txt, Nuclide: 184AU). A list of analysis programs is shown, each with a "Run" button circled in red:

- FMTCHK**: Checking ENSDF format. Analyzes the format of an ENSDF formatted file to verify that it conforms to the standard NUCLEAR STRUCTURE DATA FILE. A Manual for Preparation of Data Sets¹ by J.K. Tuli, Brookhaven National Laboratory.
- GTOL**: Determines level energies from a least-squares fit to E_γ's & feedings. Assumed DCC theory (%): 1.4 (Bricc-1.4%, Hsicc-3%, etc.).
- LOGFT**: Calculates log ft for beta decay. This program calculates log ft for beta decay. It also calculates the partial capture fractions for electron capture, the electron capture to positron ratio for positron decay, and the average beta energies. It will do special calculations for first and second forbidden unique; All other categories are treated as allowed.
- PANDORA**: Checks physics of ENSDF files. Provides the physics checks for an ENSDF file.
- NDSPUB**: ENSDF publication program. Produces PostScript file for an ENSDF file.

The ENSDF text area contains the following data:

```
184AU 184HG EC DE  
184AU H TYP=FUL$AUT  
184AU D PARENT T: 3  
184AU2D 32.5 S 10 (0  
184AU3D WEIGHTED AV  
184AU c Others: 197  
184AU c 2005Sa40: m  
184AU2c Pb target b  
184AU3c high resolu  
184AU4c E(eg), I(eg)  
184AU5c (FHM)=0.9 k  
184AU6c 172.3 keV a  
184AU7c events whic  
184AU8c coincidence  
184AU2c Supersedes  
184AU c 1994Ib01: m  
184AU2c (+40)Ar ion  
184AU3c detectors,
```

At the bottom, it says "Web and Database Program Last updated: 11/14/2011 14".

Nuclear Science References

- NSR
- with
- pre
- Go

The image shows two overlapping browser windows. The top window is the Nuclear Science References (NSR) website, displaying search filters and a list of results. The bottom window is a Google Scholar search results page for the query 'author:Scheit'. The Google Scholar page shows search filters and a list of results. A red circle highlights the text 'Results 1 - 11 of 11 (0.11 sec)' in the Google Scholar results bar.

NSR Query Results:

- Publication year range: Primary and secondary
- Output year order: Normal
- NSR database version: 2011NI01
- Search criteria: author=Scheit
- Found 8 matches
- Back to query form

Google Scholar Search Results:

author:Scheit

Search only in Physics, Astronomy, and Planetary Science.

Search in all subject areas.

Scholar Articles and patents 2010 - 2011 include citations Create email alert Results 1 - 11 of 11 (0.11 sec)

[Full Text @ BNL](#)

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[PDF] from arxiv.org

IUPAC Table of Isotopes

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- Ho
- Gr

Interactive (Clickable) IUPAC Periodic Table of the Isotopes - Mozilla Firefox

www.nndc.bnl.gov/isotopes/

Mg2.pdf (application/pdf Object) - Mozilla Firefox

www.nndc.bnl.gov/isotopes/docs/Mg2.pdf

NNDC National Nuclear Data Center

Search the NNDC: Go

Organizations

- Commission on Isotopic Abundances and Atomic Weights (CIAAW)
- International Union of Pure and Applied Chemistry (IUPAC)
- Interactive (Clickable) IUPAC Periodic Table of the Isotopes
- Student Introduction
- Principles and Practical Applications
- IUPAC Periodic Table References

magnesium

magnesium
Mg
12

26 25 24

24.3050(6)

Stable isotope	Atomic mass*	Mole fraction
²⁴ Mg	23.985 0417	0.7899
²⁵ Mg	24.985 836 92	0.1000
²⁶ Mg	25.982 592 93	0.1101

* Atomic mass given in unified atomic mass units, u.

Half-life of radioactive isotope

- Less than 1 second
- Between 1 second and 1 hour
- Greater than 1 hour

19 Mg 20 Mg 21 Mg 22 Mg 23 Mg 24 Mg 25 Mg 26 Mg 27 Mg 28 Mg

Conclusion & Outlook

- NNDC front page got a new look
- Many challenges still remain
- Work on new products and services improvements will continue (Sigma, NSR, User requests)
- **Collaboration with Physical Review C in FY2012**
- We will continue to serve the needs of physics community