



NNDC Centre Report

David Brown,
National Nuclear Data Center,
Brookhaven National Laboratory, Upton NY, USA

NRDC, Madrid Spain,
17-20 June 2025



NNDC Vision & Mission

The National Nuclear Data Center (NNDC) vision is to be the premier global resource for nuclear data and plan to:

- ❑ Implement AI/ML algorithms to reduce the time from data publication to integration in a recommended library to less than two years.
- ❑ Establish an open data repository for low-energy nuclear physics.
- ❑ Advance dissemination efforts with modern and efficient software tools.
- ❑ Sustain a robust nuclear physics research portfolio, including the development of an experimental program to accelerate isotope production science.



The NNDC is the lead and largest unit of the U.S. Nuclear Data Program (USNDP), whose mission is to provide current, accurate, authoritative data for workers in pure and applied areas of nuclear science and engineering. This is accomplished primarily through the compilation, evaluation, dissemination, and archiving of extensive nuclear datasets. USNDP also addresses gaps in the data, through targeted experimental studies and the use of theoretical models.

Personnel changes at the NNDC



Sanjane Waniganeththi joined the NNDC on April 1st as a post-doc to work on the Accelerated Decay Data Evaluation project

Sam Kim has left the NNDC for a *post-doctoral position at LANL in the isotopes production group.*



Gulhan Gurdal brought under NNDC contract for XUNDL compilations following a recommendation from NDAC



Libby Ricard became member of BNL RAP1 team in addition to her duties as deputy NNDC head and ENSDF library manager.

**In FY24, the NNDC currently
had 9 staff scientists,
1 post-doc,
4 professional staff and
3 contractors**

**As of early spring, BNL no
longer has any contractors**

FY24 Staffing Summary

- **For FY 24, the NNDC supported**
- 3 IT professionals (**Arcilla**, **Mason**, & **Shu**),
- 3 administrative staff (**Dunn**, **Krejci**, & **Frejka**)
- 11 permanent scientists (Brown, Chimanski, **Coles**, Mattera, Morse, Nobre, Ota, Ricard, **Sonzogni**, Pritychenko, & **Wu**)
- 2 postdocs (Kim & Waniganeththi)
- 3 contractors (Gritzay, Gurdal, & Symochko)



Legend

NNDC member, partly funded by USNDP

NNDC member, fully funded by USNDP

Non-NNDC member, partly funded by USNDP

You heard about these projects from the rest of the NNDC

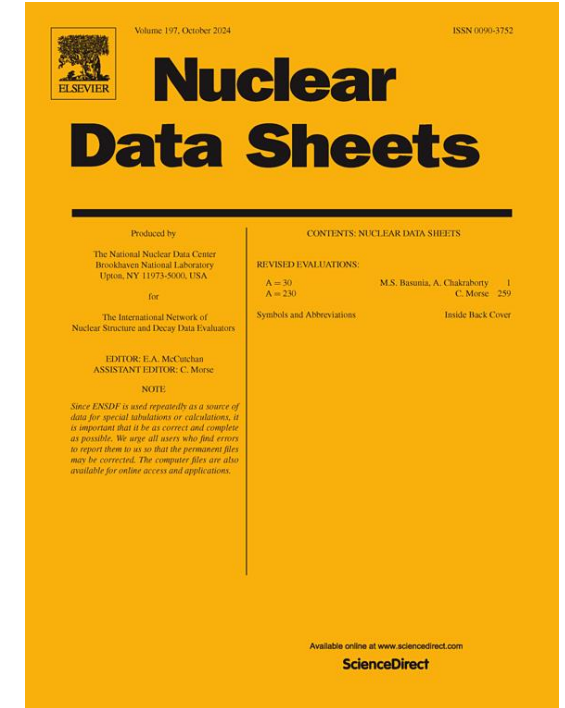
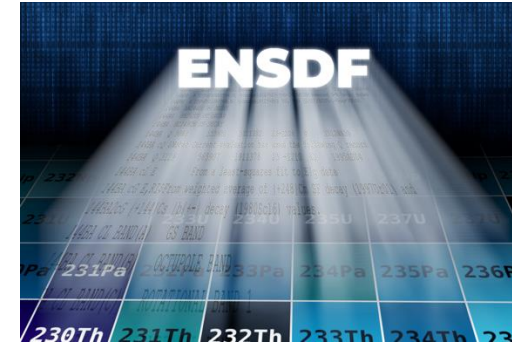
Gustavo Nobre

ENDF/B VIII.1

Boris Pritychenko

NSR and EXFOR

Libby Ricard



Chris Morse, Donnie Mason & Ben Shu

Modernization Efforts

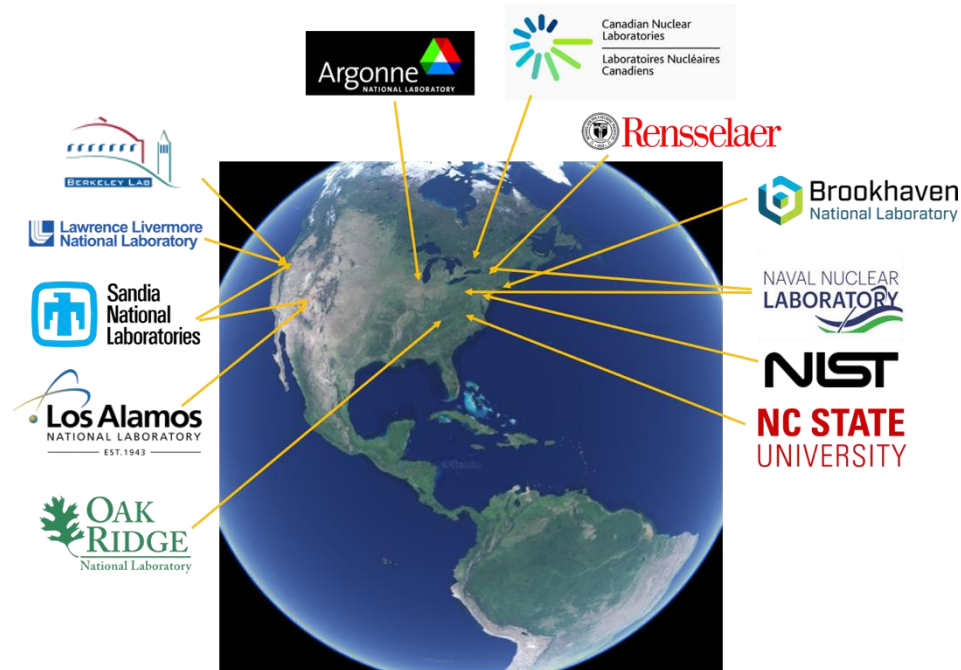
The Cross Section Evaluation Working Group produces ENDF/B library



- Formed 1966 & Chaired by BNL
- Currently ~200 members of the collaboration from 25 institutions
 - US programs, industry and international partners
 - If you see something in the library, at some point a sponsor somewhere wanted it
- All steps of nuclear data pipeline coordinated through CSEWG

USNDP (& BNL) have a central role in CSEWG

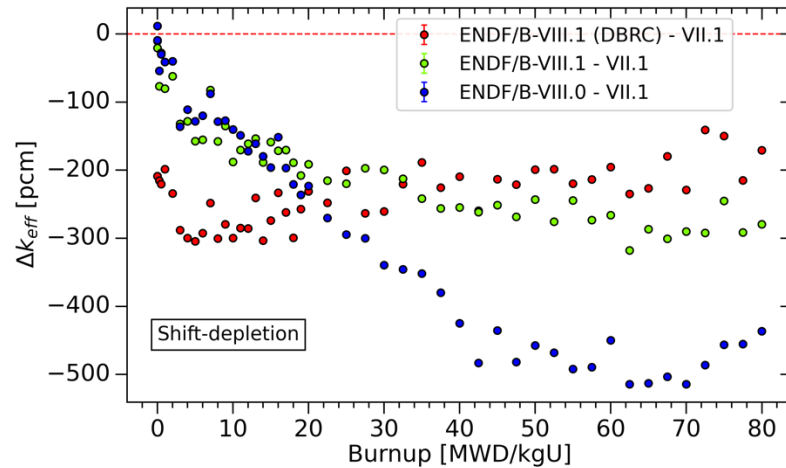
- BNL chairs CSEWG
- BNL manages the library
- BNL provides the collaboration infrastructure
- USNDP covers all the evaluations not covered by other programs, leveraging structure-reaction cooperation



November 2024 CSEWG collaboration meeting

ENDF/B VIII.1

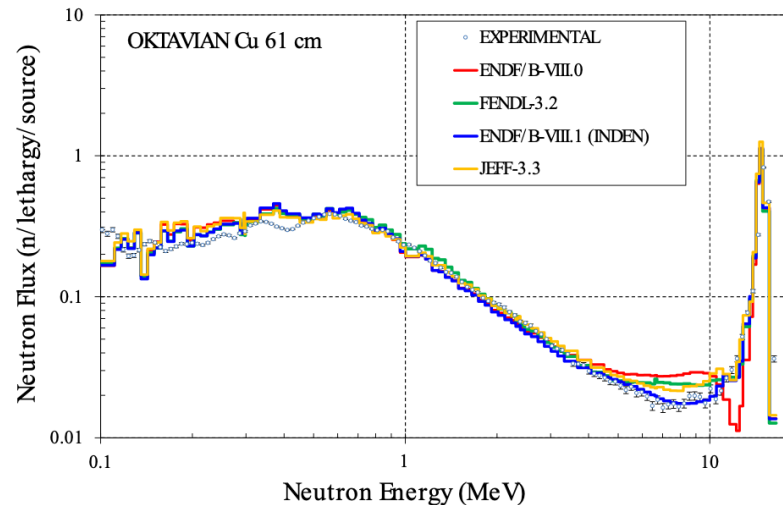
was released Aug 30, 2024!



VIII.1 dramatically improves depletion performance,...

The previous release (VIII.0) was great, but...

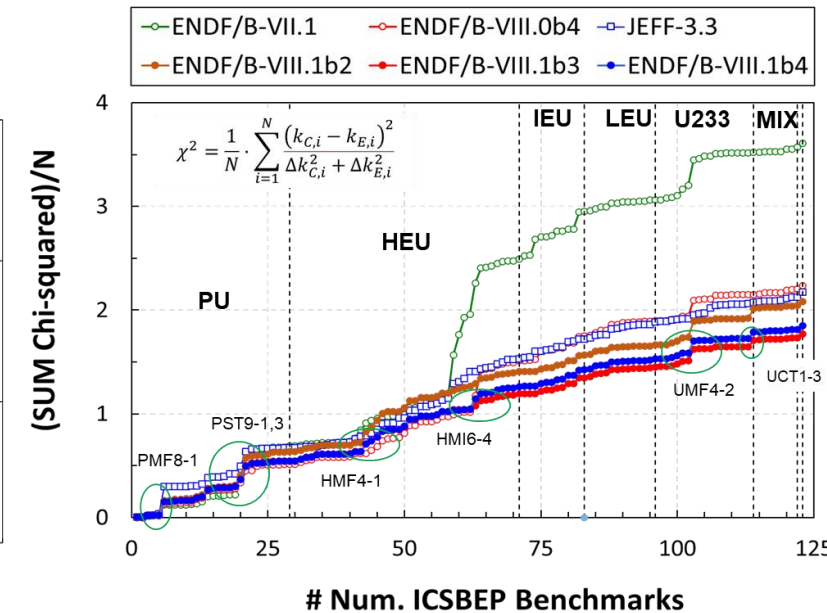
- Underpredicted depletion at high burnup
- Had deficiencies in leakage benchmarks
- Many other contributions since then



...performs much better in leakage and shielding experiments due to updates in Cu, Fe, Cr, Pb,...

Mosteller's Suite - 123

Case HMF4.1: $\Delta k_{eff} EXP = 30$ pcm



...all while further improving the performance in criticality benchmarks, with updates to ^{239}Pu , $^{235,238}\text{U}$, et al.!!

ENDF/B-VIII.1 “Big Paper”

ENDF/B VIII.1

220+ pages!

Still being reviewed

Anticipate starting second round of
revisions this summer

Publication in FY26

ENDF/B-VIII.1: Updated Nuclear Reaction Data Library for Science and Applications

G.P.A. Noor,^{1,*} R. Capote,² M.T. Pigni,³ A. Trkov,⁴ C.M. Mattoon,⁵ D. Neudecker,⁶ D.A. Brown,⁷ M.B. Chadwick,⁸ A.C. Kahler,⁹ N.A. Kleeble,¹⁰ M. Zerkle,¹¹ A.I. Hawari,¹² C.W. Chapman,¹³ N.C. Fleming,¹⁴ J.L. Wormald,¹⁵ K. Ramić,¹⁶ Y. Danon,¹⁷ N.A. Gibson,¹⁸ F. Brin,¹⁹ M.W. Paris,²⁰ G.M. Hale,²¹ L.J. Thompson,²² D.P. Barry,²³ I. Stetcu,²⁴ W. Haack,²⁵ A.E. Lovell,²⁶ M.R. Mumpower,²⁷ G. Potel,²⁸ K. Kravvaris,²⁹ G. Noguere,³⁰ J.D. McDonnell,³¹ A.D. Carlson,³² M. Dunn,³³ T. Kawano,³⁴ D. Wiarda,³⁵ I. Al-Qasir,^{36,37} G. Arbanas,³⁸ R. Arcilla,³⁹ B. Beck,⁴⁰ D. Bernard,⁴¹ R. Beyer,⁴² J.M. Brown,⁴³ O. Cabellero,⁴⁴ R.J. Casperson,⁴⁵ Y. Cheng,⁴⁶ E.V. Chmurski,⁴⁷ R. Coles,⁴⁸ M. Cornock,⁴⁹ J. Cotten,⁵⁰ J.P.W. Crozier,⁵¹ D.E. Cullen,⁵² A. Daskalakis,⁵³ M.-A. Descalle,⁵⁴ D.D. DiJulio,⁵⁵ P. Dimitriou,⁵⁶ A.C. Dreyfuss,⁵⁷ I. Durán,^{58,59} R. Ferrer,⁶⁰ T. Gaines,⁶¹ V. Gillette,⁶² G. Gert,⁶³ K.H. Guber,⁶⁴ J.D. Haverkamp,⁶⁵ M.W. Herman,⁶⁶ J. Holmes,⁶⁷ M. Hursin,⁶⁸ N. Jirawi,⁶⁹ A.R. Junghans,⁷⁰ K.J. Kelly,⁷¹ H.I. Kim,⁷² K.S. Kim,⁷³ A.J. Koning,⁷⁴ M. Kottai,⁷⁵ B.K. Laramée,⁷⁶ A. Lauer-Coles,⁷⁷ L. Leal,^{78,79} H.Y. Lee,⁸⁰ A.M. Lewis,⁸¹ J. Malec,⁸² J.J. Márquez Domínguez,⁸³ W.J. Marshall,⁸⁴ A. Matterna,⁸⁵ G. Mahrez,⁸⁶ A. Ney,⁸⁷ W.E. Ormand,⁸⁸ D.K. Parsons,⁸⁹ C.M. Percher,⁹⁰ V.G. Pruntyaev,⁹¹ A. Qteish,⁹² S. Quagliotti,⁹³ M. Rapp,⁹⁴ J.J. Ressler,⁹⁵ M. Rising,⁹⁶ D. Rochman,⁹⁷ P.K. Romano,⁹⁸ D. Roubtsov,⁹⁹ G. Schnabel,¹⁰⁰ M. Schulz,¹⁰¹ G.J. Siemens,¹⁰² A.A. Sonzogni,¹⁰³ P. Takou,¹⁰⁴ J. Thompson,¹⁰⁵ T.H. Trumbull,¹⁰⁶ S.C. van der Marck,¹⁰⁷ M. Vorabbi,^{108,109} C. Wempe,¹¹⁰ K.A. Wendt,¹¹¹ M. White,¹¹² and R.Q. Wright.¹¹³

¹ Brookhaven National Laboratory, Upton, NY 11973-5000, USA

² International Atomic Energy Agency, Vienna A-1400, PO Box 100, Austria

³ Oak Ridge National Laboratory, Oak Ridge, TN 37831-6171, USA

⁴ Jozef Stefan Institute, Jamova 39, SI-1000, Ljubljana, Slovenia

⁵ Lawrence Livermore National Laboratory, Livermore, CA 94551-0808, USA

⁶ Los Alamos National Laboratory, Los Alamos, NM 87545, USA

⁷ Naval Nuclear Laboratory, West Mifflin, Pennsylvania 15122-0079, USA

⁸ North Carolina State University, Department of Nuclear Engineering, Raleigh, North Carolina 27695

⁹ Renaissance Polytechnic Institute, Troy, NY 12180, USA

¹⁰ Naval Nuclear Laboratory, Schenectady, New York 12301-1072, USA

¹¹ CEA, DEN, DER, SPRC, Cadarache, 13108 Saint-Paul-lès-Durance, France

¹² National Institute of Standards and Technology, Gaithersburg, MD 20899-8463, USA

¹³ Spectra Tech, Inc., Oak Ridge, TN 37830, USA

¹⁴ Department of Nuclear, University of Sharjah, Sharjah, United Arab Emirates

¹⁵ Heineholz-Zentrum Dresden - Rossendorf e.V., Dresden, Germany

¹⁶ Universidad Politécnica de Madrid, José Gutiérrez Abascal, 2 28006, Madrid, Spain

¹⁷ AWE plc Aldermaston, Reading, Berkshire, RG7 4PR

¹⁸ European Spallation Source ERIC, Lund, Sweden

¹⁹ IGFAE-Universidad de Santiago de Compostela, 1582 Spain

²⁰ International Atomic Energy Agency (consultant), Vienna A-1400, PO Box 100, Austria

²¹ Studsvik Sundpower, Inc., 1070 Riverwalk Dr., Idaho Falls, ID 83401, USA

²² Ecole Polytechnique Fédérale de Lausanne (EPFL), 1015 Lausanne, Switzerland

²³ Korea Atomic Energy Research Institute, Daejeon, Republic of Korea

²⁴ Research Centre Řež Ltd, Husinec-Řež, Czech Republic

²⁵ Institut de Radioprotection et de Sécurité Nucléaire, 92262 Fontenay aux Roses, Cedex, France

²⁶ Physics Department, Yarmouk University, Irbid, Jordan

²⁷ Laboratory for Reactor Physics Systems Behaviour, Paul Scherrer Institut, Villigen, Switzerland

²⁸ Argonne National Laboratory, Argonne, IL 60439-4842 USA

²⁹ Canadian Nuclear Laboratories, Chalk River, Ontario, Canada

³⁰ NRG Westerduinweg 3, 1755 LE Petten, Nederland

You heard about these projects from the rest of the NNDC

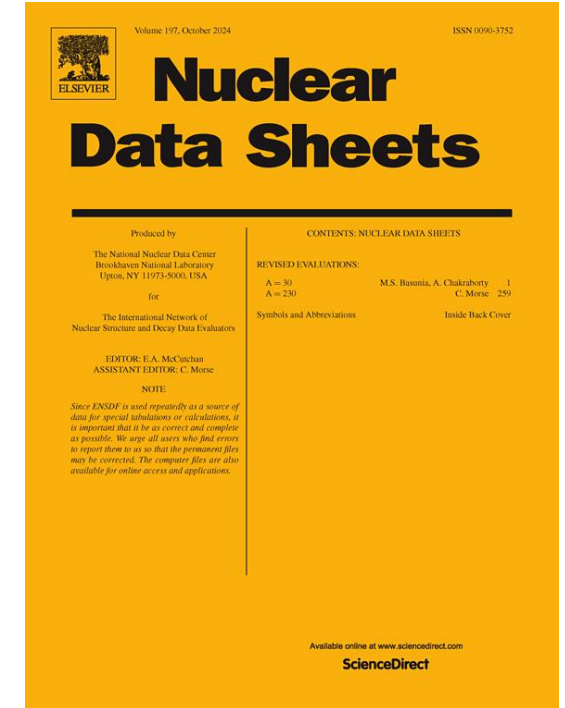
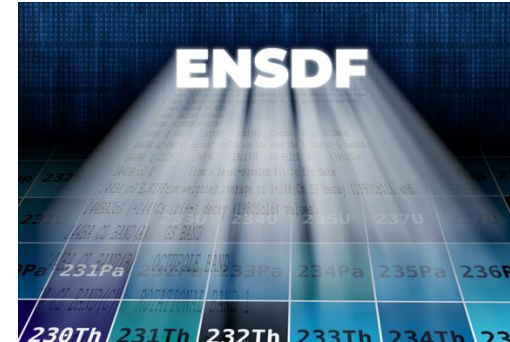
Gustavo Nobre

ENDF/B
VIII.1

Boris Pritychenko

NSR and EXFOR

Libby Ricard

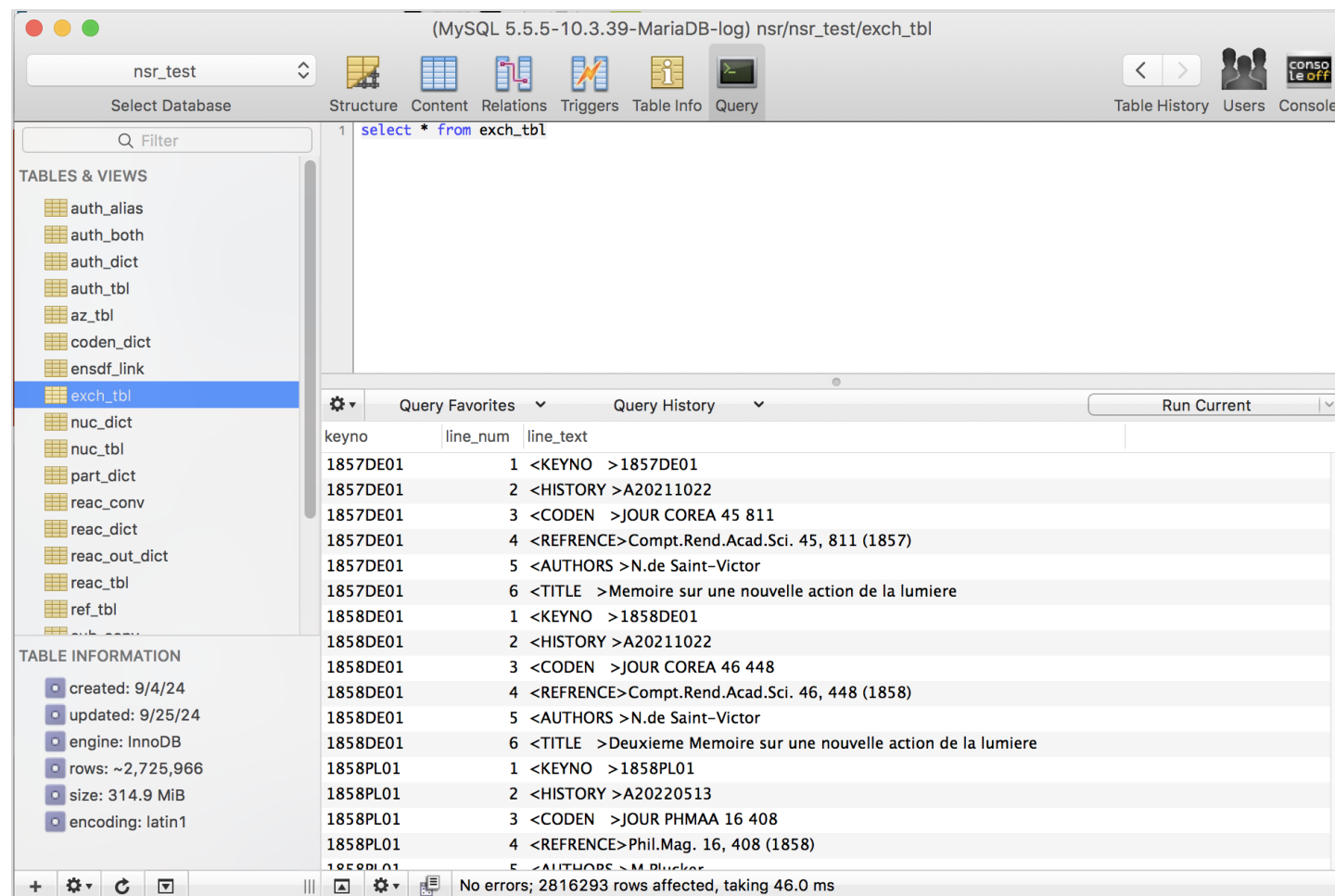


Chris Morse, Donnie Mason & Ben Shu

**Modernization
Efforts**

Nuclear Science References (NSR)

- Leading low- and intermediate-energy nuclear bibliography database.
- 249,782 bibliographic records, including 202,213 keyworded abstracts as of September 26, 2024.
- We will celebrate 250,000 references in NSR in one month.



The screenshot shows a MySQL database interface for the 'nsr_test' database. The left sidebar lists various tables and views, with 'exch_tbl' selected. The main window displays a query result for 'select * from exch_tbl'. The result is a table with columns 'keyno', 'line_num', and 'line_text'. The data shows multiple records for key numbers 1857DE01, 1858DE01, and 1858PL01, each with a line number and a corresponding text entry. The status bar at the bottom indicates 'No errors; 2816293 rows affected, taking 46.0 ms'.

keyno	line_num	line_text
1857DE01	1	<KEYNO >1857DE01
1857DE01	2	<HISTORY >A20211022
1857DE01	3	<CODEN >JOUR COREA 45 811
1857DE01	4	<REFERENCE>Compt.Rend.Acad.Sci. 45, 811 (1857)
1857DE01	5	<AUTHORS >N.de Saint-Victor
1857DE01	6	<TITLE >Memoire sur une nouvelle action de la lumiere
1858DE01	1	<KEYNO >1858DE01
1858DE01	2	<HISTORY >A20211022
1858DE01	3	<CODEN >JOUR COREA 46 448
1858DE01	4	<REFERENCE>Compt.Rend.Acad.Sci. 46, 448 (1858)
1858DE01	5	<AUTHORS >N.de Saint-Victor
1858DE01	6	<TITLE >Deuxieme Memoire sur une nouvelle action de la lumiere
1858PL01	1	<KEYNO >1858PL01
1858PL01	2	<HISTORY >A20220513
1858PL01	3	<CODEN >JOUR PHMAA 16 408
1858PL01	4	<REFERENCE>Phil.Mag. 16, 408 (1858)

NSR FY 2024 Statistics

- Dr. Dima Symochko worked four months (June-September 2024).
- Joann Totans retired at the end of 2023.
- Cat Dunn is working hard to learn NSR and provide services.
- NSR database provided for the NSDD, IAEA.

NSR	FY 2024	FY 2023
New Entries	2,600	3,624
Corrected Entries	266	400
Keyworded Entries	1,496	2,705
Database Updates	172	177
New Authors	9,337	2,072
New Journals	9	23
New Nuclides	267	252
New Decays	14	7
New Reactions	75	252

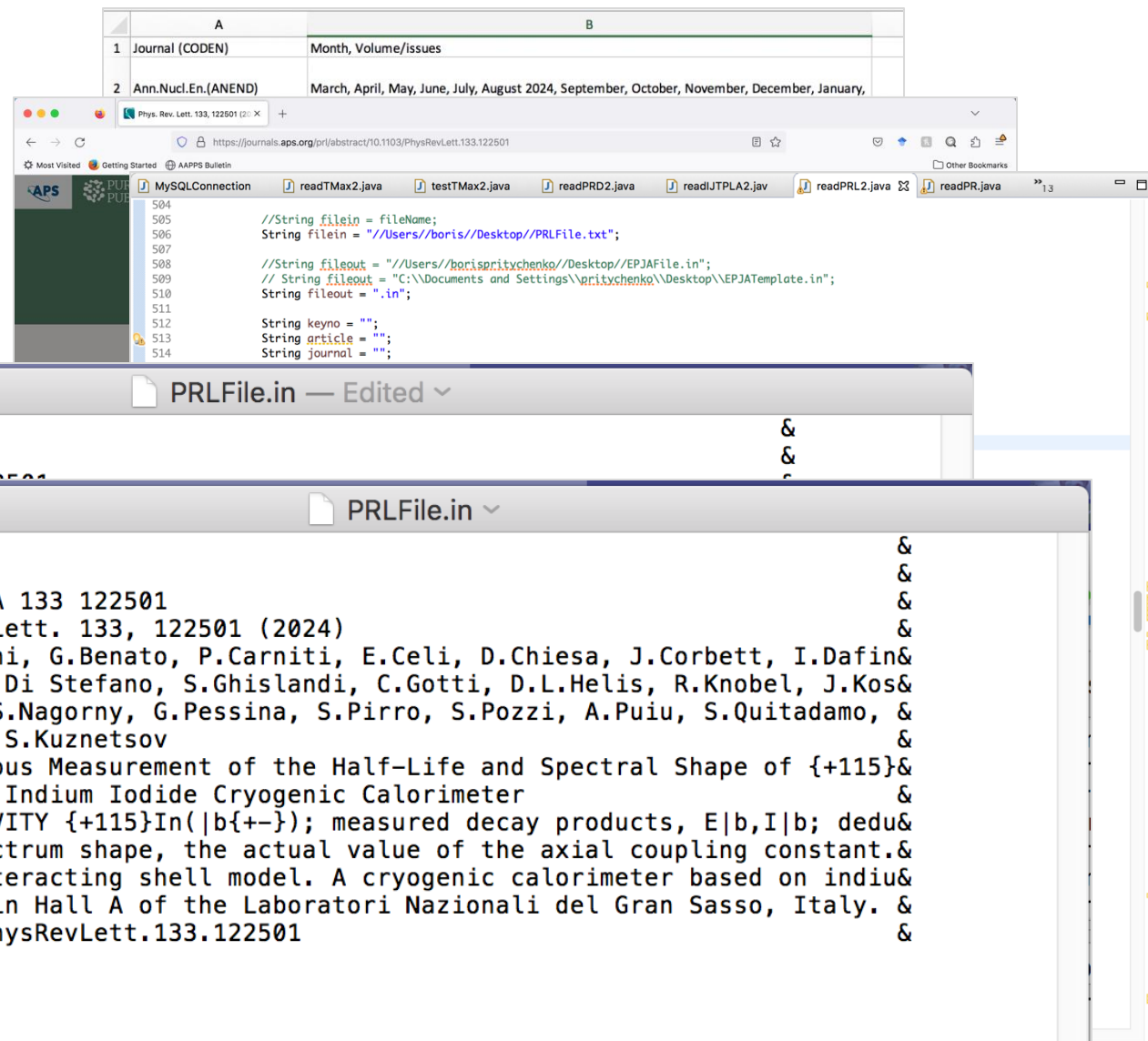
Joann Totans => Catherine-Anne Dunn

- The most important nuclear data resource is people.
- Joann works on NSR since 2002.
- Joann retired at the end of 2023.
- Cat Dunn would assume responsibilities of Joann Totans.
- Please contact Cat for all NSR relevant issues if needed.



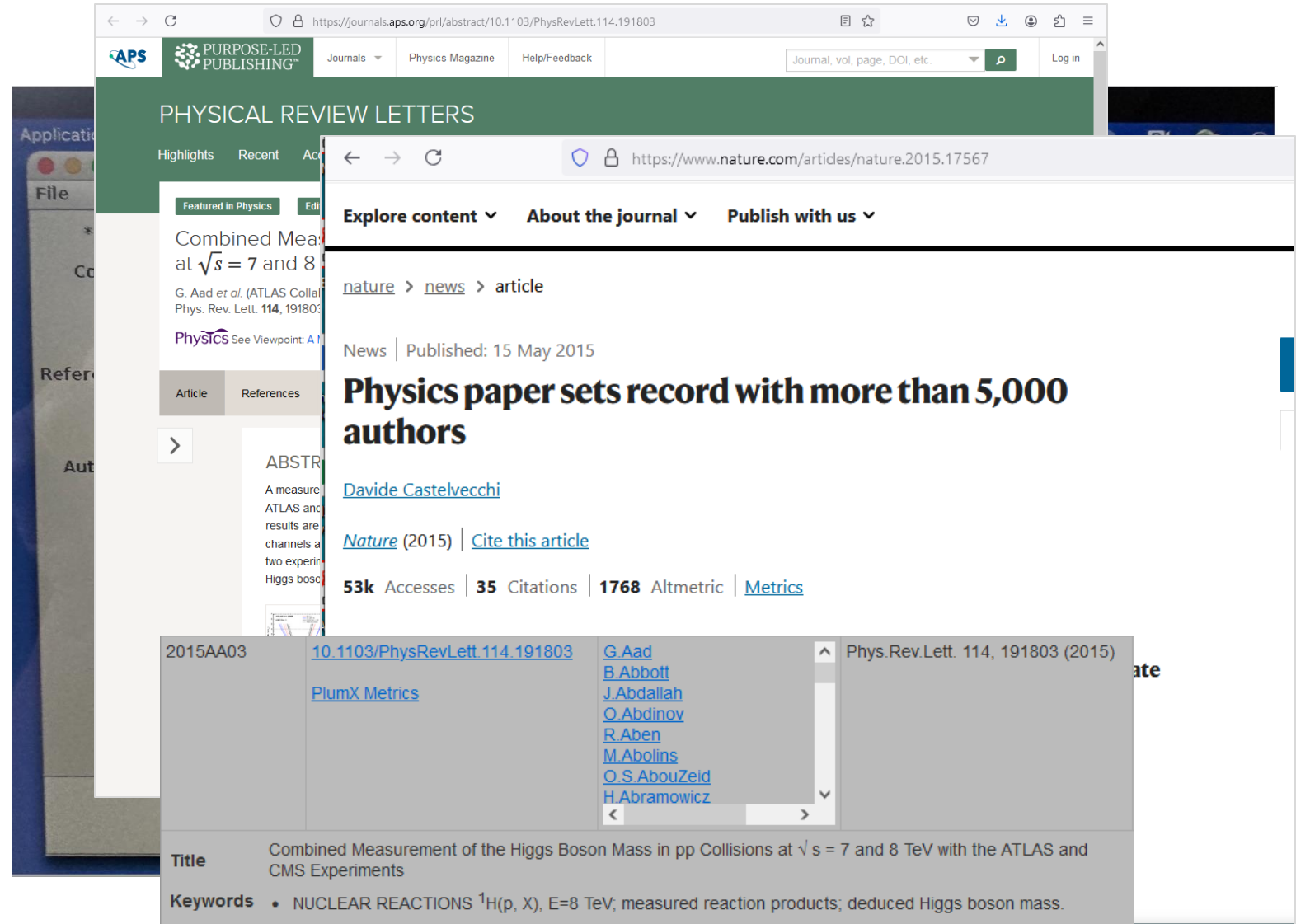
New Method for NSR Entries Preparation

- Balraj Singh told me that we have a dozen of relevant journals, and I picked 25.
- Journals are scanned regularly.
- Journals provide BiBTeX and .ris files.
- I wrote Java codes to read and produce new NSR entries.
- Ben Shu produced extensions for Cat.



Impact of New Preparation System

- Less manual work, compared to Java Swing written by D. Winchell that Joann used.
- Previously, NSR policy would only allow to enter of up to 100 authors (difficult to do manually).
- New system: 2015Aa03 => ATLAS/CMS => 5,154 is in NSR.
- The current NSR database software supports 5,000+ authors in a single article.
- Thank you Ben and Boris!



PHYSICAL REVIEW LETTERS

Combined Measurement of the Higgs Boson Mass in pp Collisions at $\sqrt{s} = 7$ and 8 TeV with the ATLAS and CMS Experiments

G. Aad et al. (ATLAS Collaboration) Phys. Rev. Lett. **114**, 191803 (2015)

Physics See Viewpoint: A Measure of the Higgs Boson Mass

Article References

ABSTRACT
A measurement of the Higgs boson mass is presented using the ATLAS and CMS results from the 7 and 8 TeV data sets. The results are combined in a global fit to the Higgs boson mass, yielding a value of $m_H = 125.09 \pm 0.21$ GeV.

Explore content About the journal Publish with us

nature > news > article

News | Published: 15 May 2015

Physics paper sets record with more than 5,000 authors

[Davide Castelvecchi](#)

[Nature](#) (2015) | [Cite this article](#)

53k Accesses | 35 Citations | 1768 Altmetric | [Metrics](#)

2015AA03 10.1103/PhysRevLett.114.191803 PlumX Metrics

G. Aad
B. Abbott
J. Abdallah
O. Abdinov
R. Aben
M. Abolins
O. S. AbouZeid
H. Abramowicz

Phys. Rev. Lett. 114, 191803 (2015)

Title Combined Measurement of the Higgs Boson Mass in pp Collisions at $\sqrt{s} = 7$ and 8 TeV with the ATLAS and CMS Experiments

Keywords • NUCLEAR REACTIONS $^1\text{H}(p, X)$, E=8 TeV; measured reaction products; deduced Higgs boson mass.

Collaboration between INSPIRE & NNDC

- In FY2024 NNDC started to collaborate with INSPIRE.
- The INSPIRE team helped us identify potential duplicate entries and incorrect dois.
- The INSPIRE now provides links to NSR/EXFOR.
- ***NSR provides bookmarks to data sets.***
- Blog post on Collaboration between INSPIRE and NNDC:
[https://blog.inspirehep.net/2024/09/inspire-and-the-nuclear-science-references-database/ ;!!P4SdNyxKAPE!FD tx2Dqu yzz2ZQqxPLeGqm57OgY-LeMbAidHfmq91uqWOxNX4 xm zG0dp MWInwzphAugXbub9ih6k\\$](https://blog.inspirehep.net/2024/09/inspire-and-the-nuclear-science-references-database/)

[illegible]

You heard about these projects from the rest of the NNDC

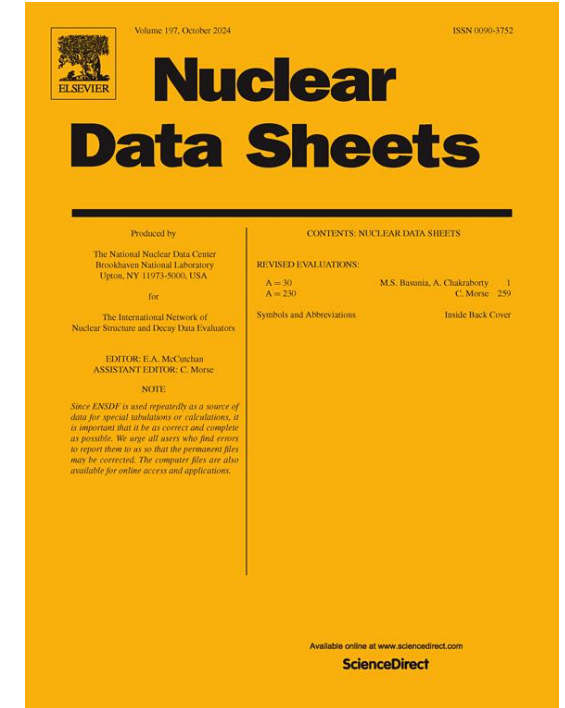
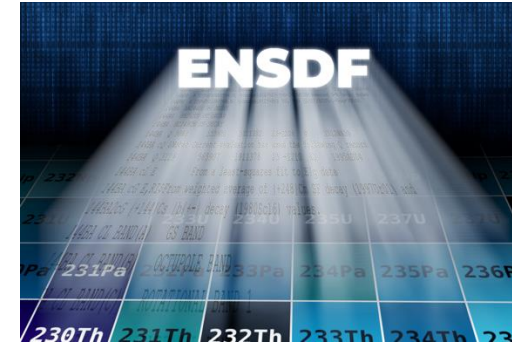
Gustavo Nobre

**ENDF/B
VIII.1**

Boris Pritychenko

NSR and EXFOR

Libby Ricard



Chris Morse, Donnie Mason & Ben Shu

**Modernization
Efforts**

XUNDL Pre-publication Checking Statistics

Started in June 2024 to collect statistics on compilation reports

- 35 papers
- **312** “Minor” fixes
- **40** “Major” fixes

Roughly 10 fixes per paper

Minor fix examples:

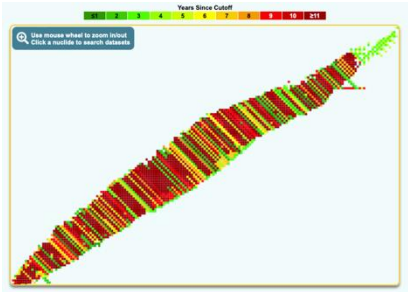
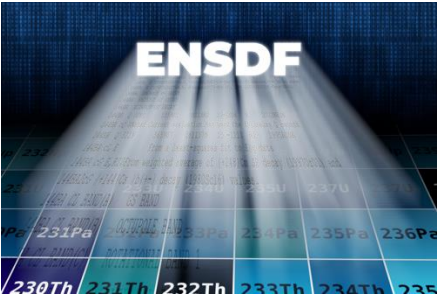
- Jpi in Figure and Table don't match
- Gamma energy in Spectrum and Table don't match
- Small differences in calculated values (transition strengths, beta feedings, etc)

Major fix examples:

- Gammas that don't fit in level scheme
- Large negative intensity imbalances
- Large differences in calculated values that change physics interpretation

ENSDF

Recommended nuclear
structure and decay data



FY 2024 Metrics																
	Total	ANL		BNL		LBNL (incl. UCB)		MSU		ORNL		TAMU		TUNL		Int.
ENSDF Evaluations	145	13	8.97%	52	35.86%	24	16.55%	24	16.55%	11	7.59%	18	12.41%	3	2.07%	0
Adopted Levels	7,348	721	9.81%	1,964	26.73%	1,582	21.53%	1,579	21.49%	185	2.52%	1,255	17.08%	62	0.84%	0
Adopted Gammas	9,896	786	7.94%	2,524	25.51%	2,189	22.12%	2,021	20.42%	111	1.12%	2,260	22.84%	5	0.05%	0
ENSDF reviews	12	1	8.33%	7	58.33%	1	8.33%	1	8.33%	1	8.33%	1	8.33%	0	0.00%	0

ENSDF Updates for FY24

Welcome two new ENSDF evaluators funded through the NDIAWG FOA



Anthony Ramirez

- PhD from Ohio University – level densities
- Postdoc Kentucky – nuclear structure
- New LLNL Staff - fission yield measurements

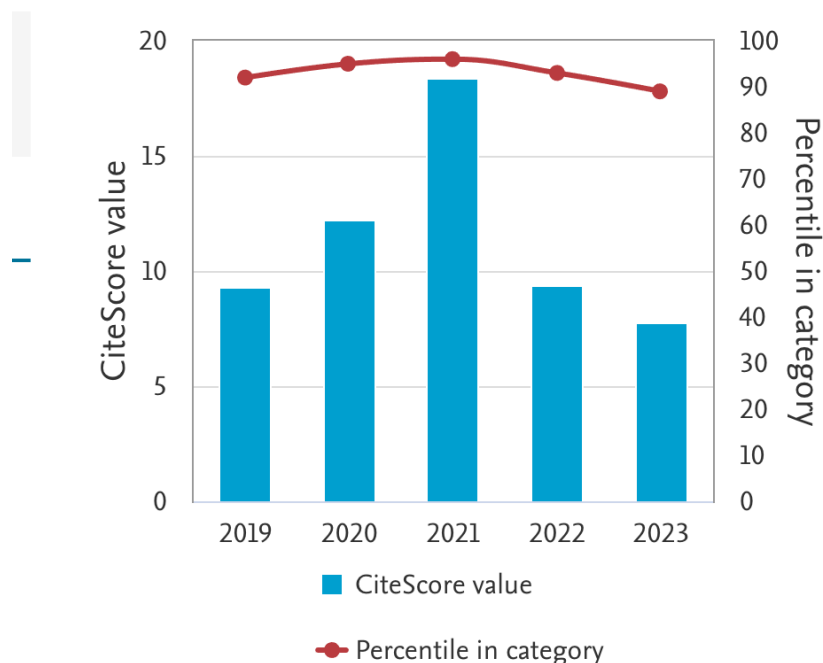


Vincent Cheung

- PhD – High Energy Theory
- LLNL – Converting ENSDF decay into GNDS Decay Sublibrary
- New LLNL Staff

Nuclear Data Sheets for “FY24”

CiteScore trend



- 10th out of 87 journals (down from 6rd in 2022)
- Good news – we have a number of what will be (likely) highly cited papers in the pipeline

8 FENDL: A library for fusion research and applications



Schnabel, G; Aldama, DL; (...); Zohar, A



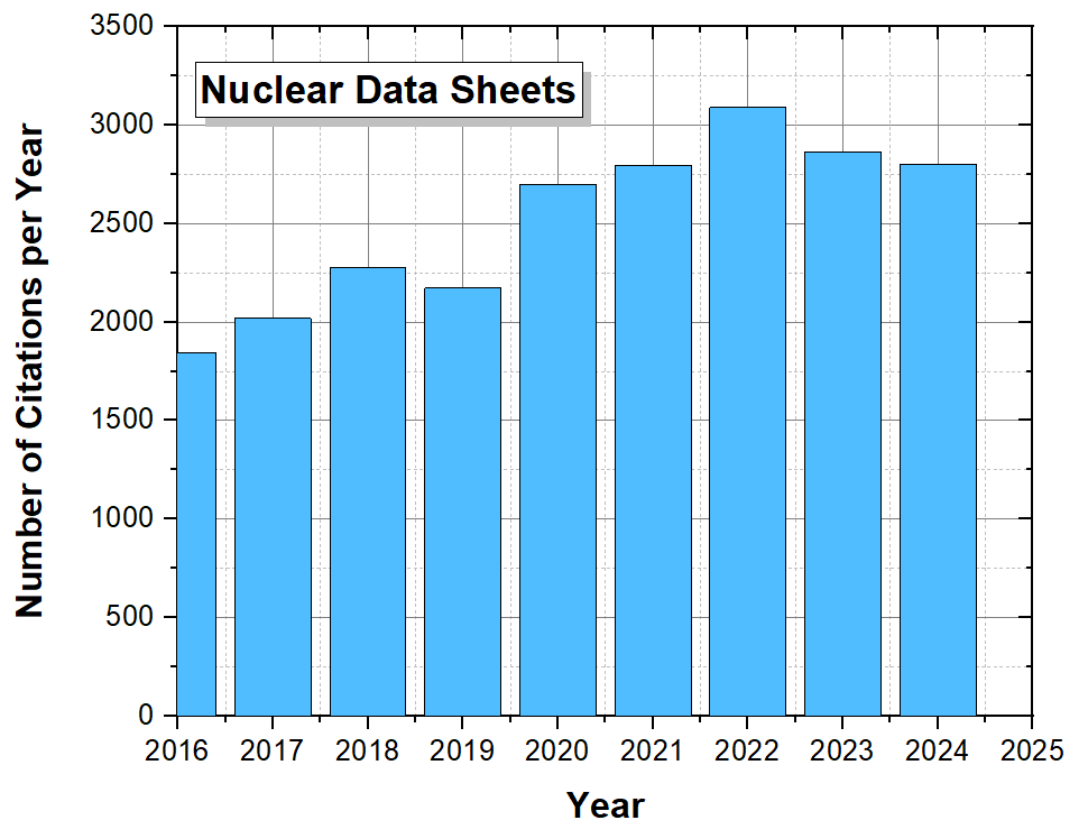
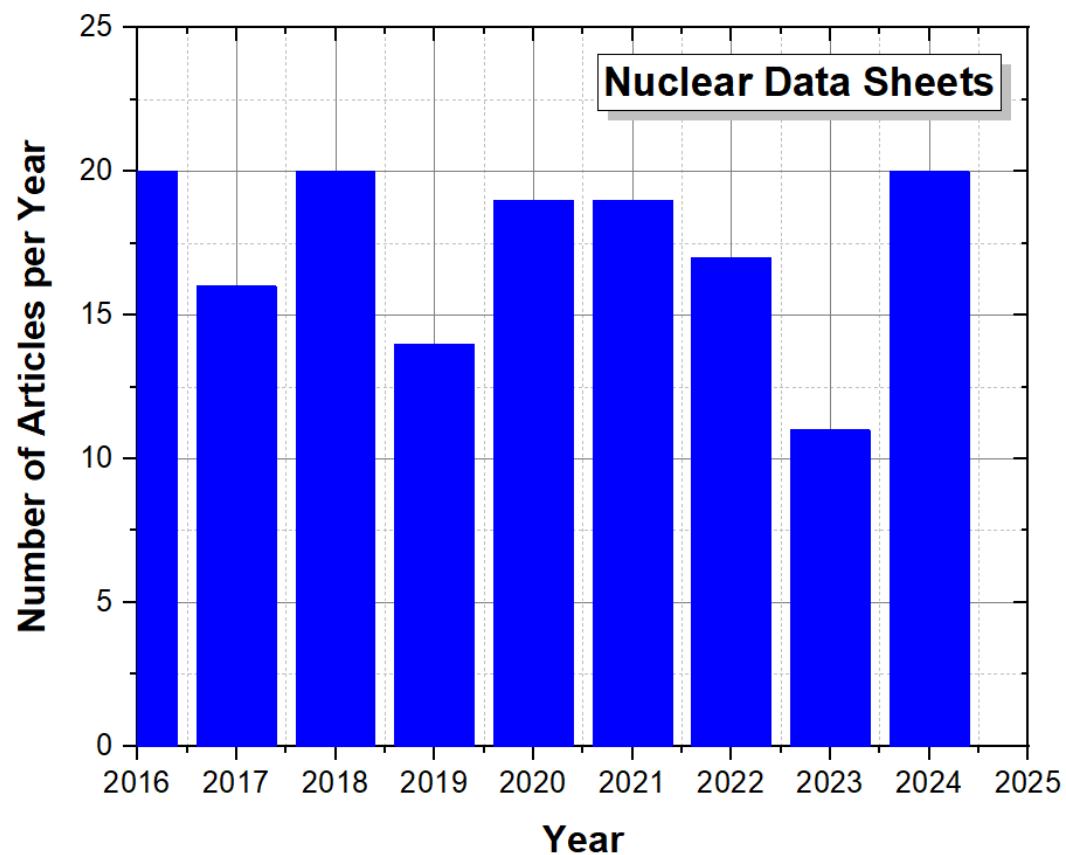
Feb 2024 | NUCLEAR DATA SHEETS 193, pp.1-78

The Fusion Evaluated Nuclear Data Library (FENDL) is a comprehensive and validated collection of nuclear cross section data coordinated by the International Atomic Energy Agency (IAEA) Nuclear Data Section (NDS). FENDL assembles the best nuclear data for fusion applications selected from available nuclear data libraries and has been under develop ... [Show more](#)

- 6 issues
- 10 mass chains
- 1 Special Issue on Nuclear Data

Next year (Calendar 2025) we will increase from 6 to 8 issues per year

Nuclear Data Sheets Metrics



Nuclear Data Sheets in FY24

March/April – Memorial Issue to Balraj



Available online at www.sciencedirect.com

ScienceDirect

Nuclear Data Sheets 194 (2024) 1–2

Nuclear Data Sheets

www.elsevier.com/locate/nds

Dr. Balraj Singh (1941/12 - 2023/10)



Our dear colleague, mentor, teacher, and friend, Balraj Singh, passed away on 9 October 2023. As a nuclear data evaluator, Balraj was the single most prolific evaluator in the history of Nuclear Data Sheets and ENSDF (Experimental Nuclear Structure Data File), and one of the longest-serving members of the international network of Nuclear Structure and Decay Data evaluators (NSDD). A total of 80 published mass chains out of 300 in ENSDF have his name on them. That is 27% of all the mass chains; a feat only Balraj could accomplish.

Balraj completed his PhD at the University of Toronto in 1971 with Dr. Harry Taylor. The title of his thesis was “Directional Correlation and Multipole Mixing of Gamma Transitions in ^{134}Ba and ^{102}Ru ”. He then held post-doctoral fellowships at McMaster University (1971-1974), University of Toronto (1974-1976), and McGill University (1976-1978). He was a Research Scientist at the Kuwait Institute for Scientific Research (KISR) from 1978 to 1984. In 1985 he moved back to Canada to start the Nuclear Data Program with John Cameron at McMaster University in Hamilton, Ontario. He remained at McMaster University until his retirement in 2013. From the mid 80s to early 90s he spent some time at the Lawrence Berkeley National Laboratory where he worked with some of the nuclear data giants of the time, Virginia Shirley, C.M. Lederer, and Eddie Browne. After his retirement, he continued working for the National Nuclear Data Center (NNDC) of the US Nuclear Data Program (USNDP) at the Brookhaven National Laboratory until 2023.



Nuclear Data Sheets

Volume 194, April 2024, Pages 460-877



Nuclear Structure and Decay Data for A=165 Isobars ☆

[Balraj Singh](#)^{a 1}, [Jun Chen](#)^b ✉



Nuclear Data Sheets

Volume 194, April 2024, Pages 3-459



Nuclear Structure and Decay Data for A=76 Isobars ☆

[Balraj Singh](#)^{a 1}, [Jun Chen](#)^b ✉, [Ameenah R. Farhan](#)^c

You heard about these projects from the rest of the NNDC

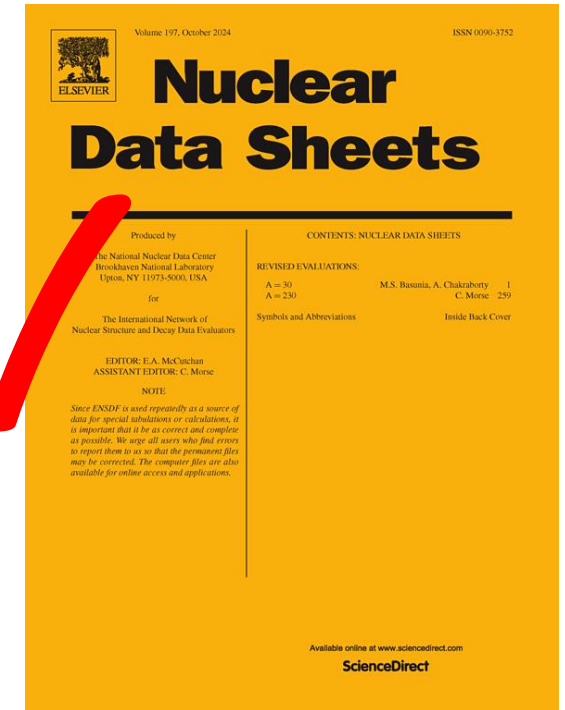
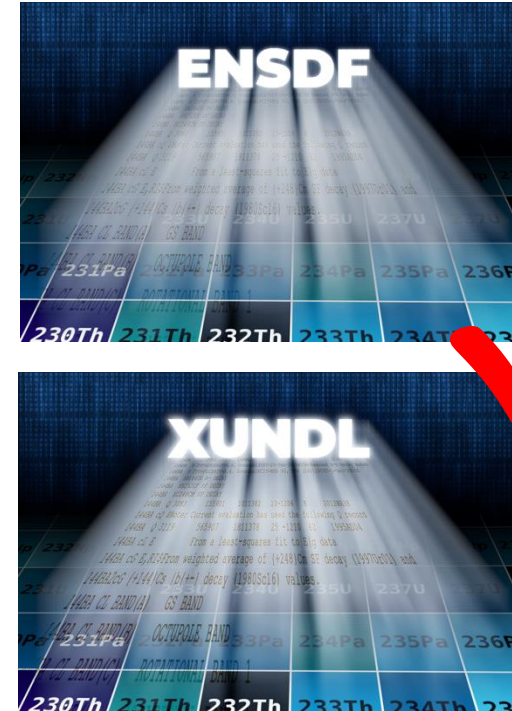
Gustavo Nobre

**ENDF/B
VIII.1**

Boris Pritychenko

NSR and EXFOR

Libby Ricard



Chris Morse, Donnie Mason & Ben Shu

**Modernization
Efforts**

ENSDF modernization

- New JSON version of ENSDF “done”
 - (no nuclear data format is every truly *done*)
 - Very easy to work with
- New ENSDF editor being developed, should be “complete” by end of FY25
- New workflow and website to follow

affiliations.json

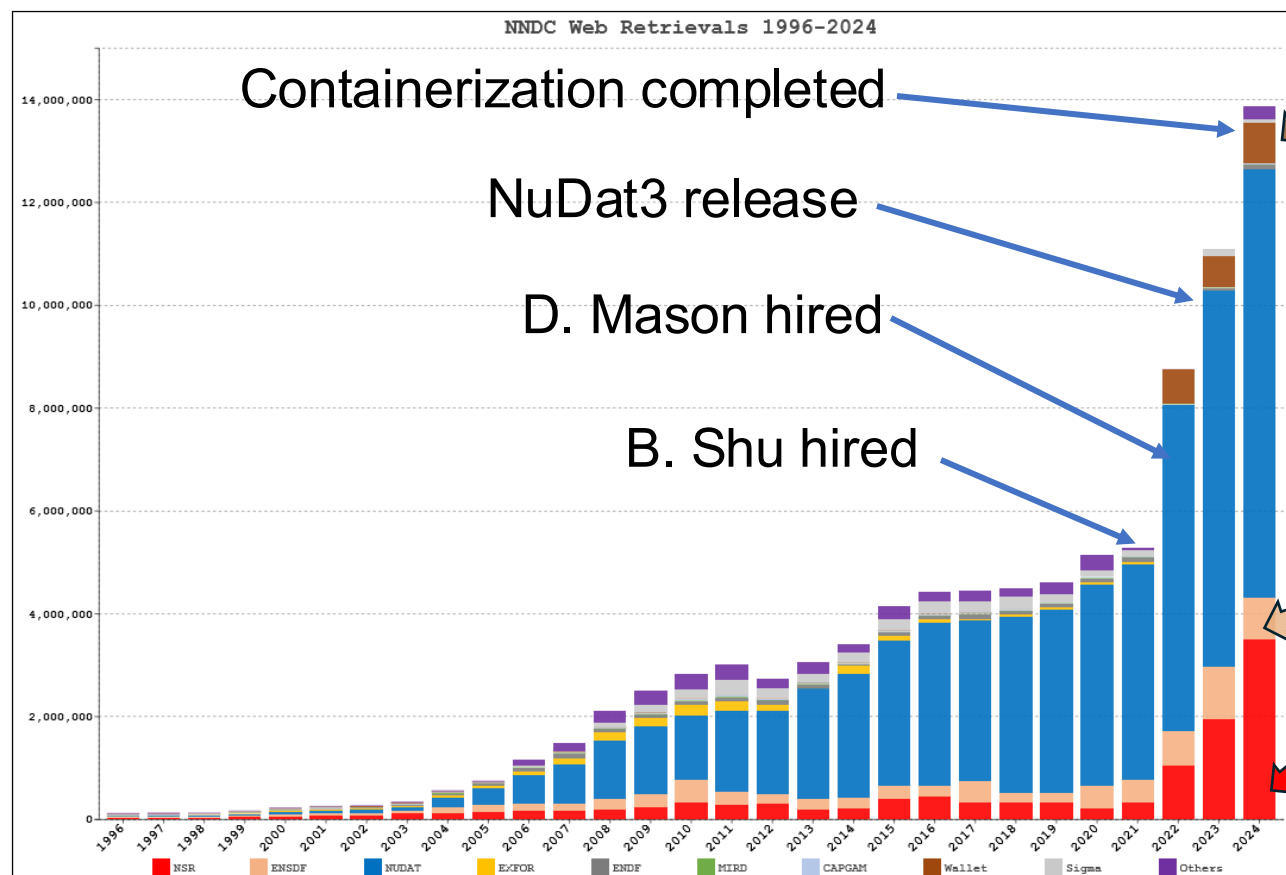
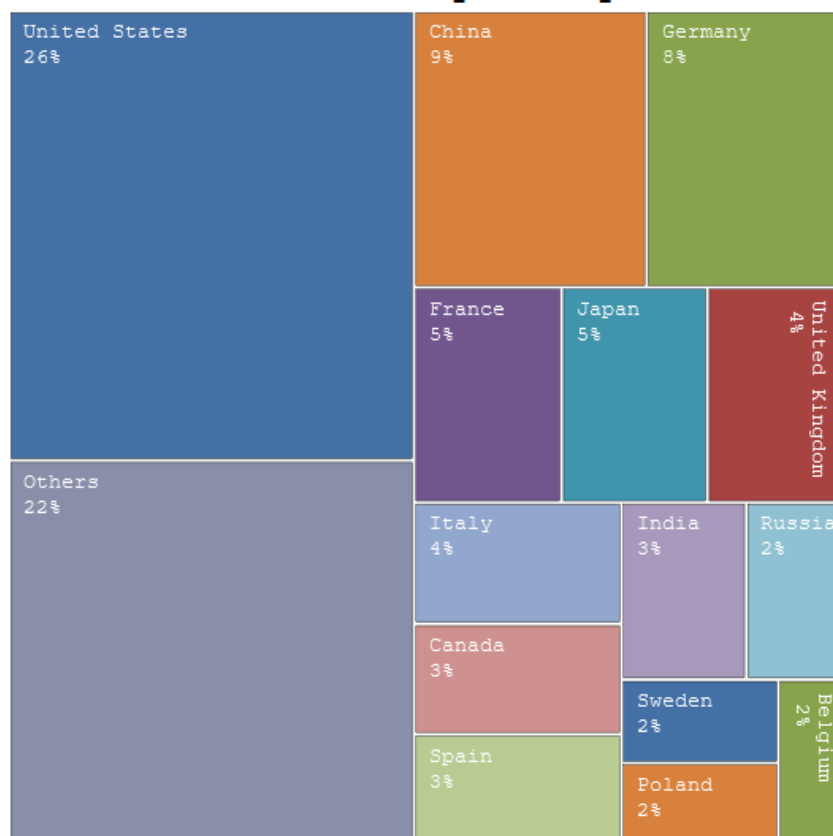
```
[  
  {  
    "institution": "University of Nowhere",  
    "address": {  
      "street": "University Ave",  
      "number": 1,  
      "zip": 12345  
    },  
    "presentAddress": true  
  }  
]
```

Obligatory screenshot of a JSON file, from C.
Morse USNDP Annual Meeting 2024

Web Analytics

- Approximately **12 million** retrievals in FY24
 - Most notable growth in **Wallet Cards** and **NuDat 3**

Nudat Web Retrievals By Country (FY 2024)



Wallet

NuDat

ENSDF

NSR

NNDC Mobile Apps

- Offline, search-able access to NNDC data
 - [Nuclear Wallet Cards](#)
 - Ground- and isomer-state observable properties
 - [CapGam](#)
 - Gamma ray energies from thermal neutron capture
- Currently available on Google Play Store
- iOS versions created by SULI student Hamnah Irfan
 - [Currently applying to publish on App Store]



NNDC Mobile Apps (Android)

Nuclear Wallet Cards

4:38

← Search

Z (Min) Z (Max)

N (Min) N (Max)

100 150

Filters

A EI Level Energy Spin-Parity H

101	Br	0 keV		
100	Kr	0 keV	0*	7 r
101	Kr	0 keV		
102	Kr	0 keV	0*	
100	Rb	0 keV	(4 ⁻)	5

4:38

← Search

Z (Min) Z (Max)

N (Min) N (Max)

Filters

Decay Mode

+ Add

Half-Life (Min) (Max)

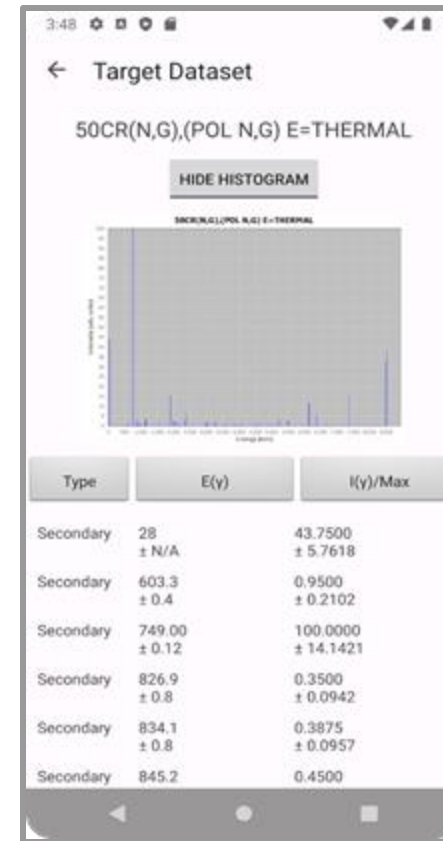
Mass Excess (Min) keV (Max) keV

Decay Mode Any (Min) % (Max) %

Clear Apply

100 Rb 0 keV (4⁻) 5

CapGam



3:48

← Search by Energy

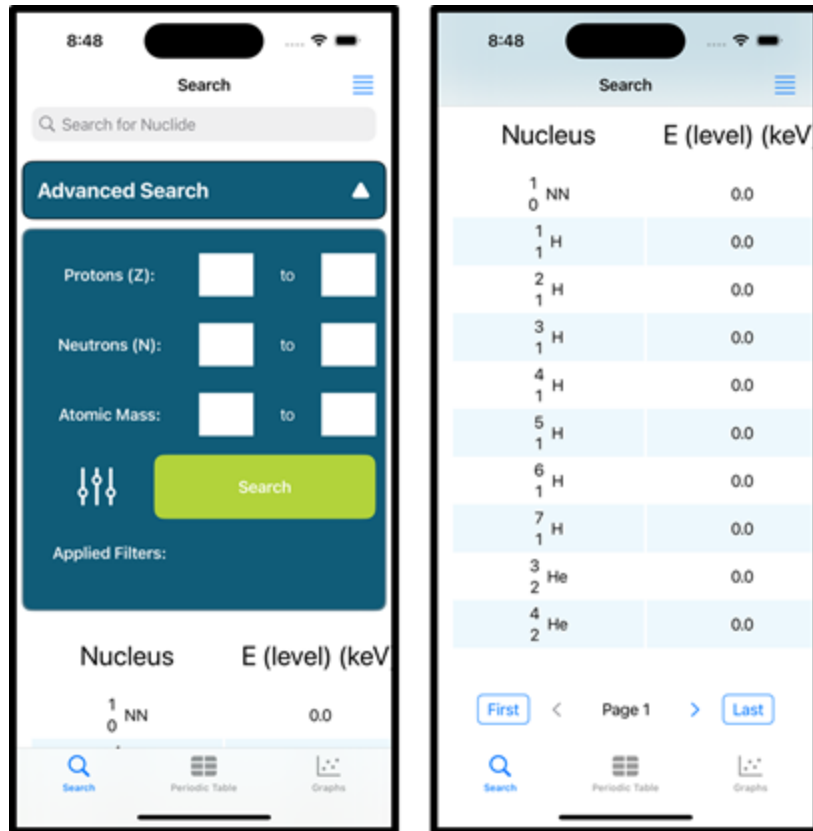
45 keV

50 keV

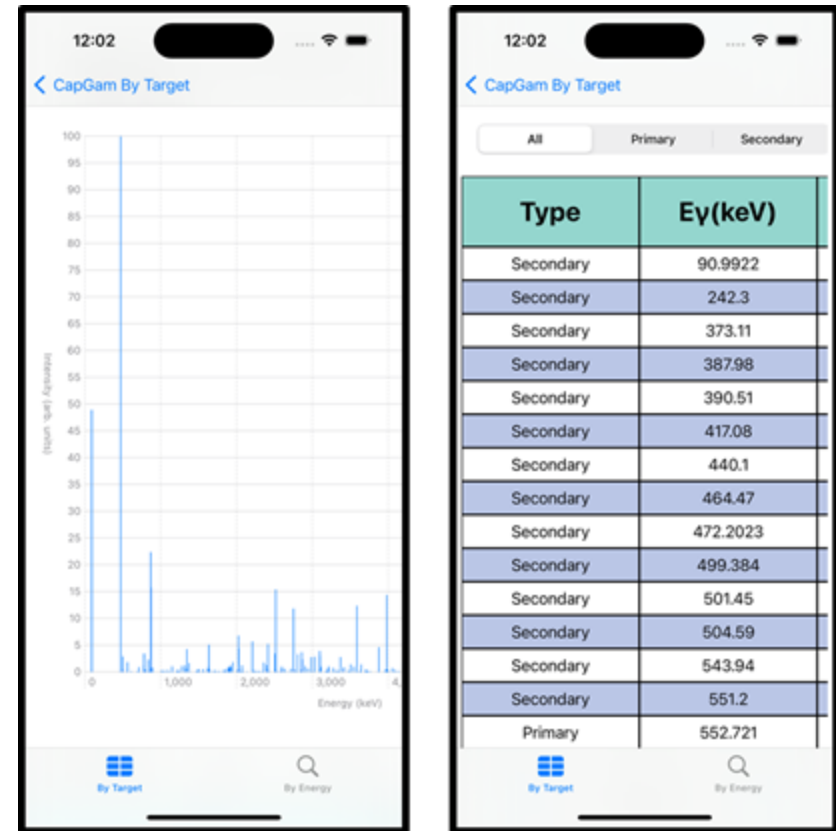
Type	E(y)	I(y)/Max	Target	Strongest ys
S	45.00 ± 0.05	0.5392 ± 0.1494	115In	6470.4, 6559.3, 6656.3
S	45.0579 ± 0.0010	0.0382 ± 0.0062	151Eu	885.2, 1136.0, 1175.7
S	45.074 ± 0.010	0.1572 ± 0.0498	243Am	1407.04, 1408.32, 1409.94
S	45.197 ± 0.004	0.9353 ± 0.2412	237Np	633.56, 646.75, 648.27
S	45.243 ± 0.002	N/A	235U	5584.9, 6395.5, 6499.5
S	45.2680 ± 0.0020	0.0260 ± 0.0130	178Hf	5484.7, 5677.804, 5723.620
S	45.300 ± 0.001	4.5556 ± 0.8509	154Gd	6168.6, 6329.9, 6436.0
S	45.483 ± 0.009	0.9836 ± 0.3314	81Br	7428.65, 7517.68, ...

NNDC Mobile Apps (iOS)

Nuclear Wallet Cards



CapGam





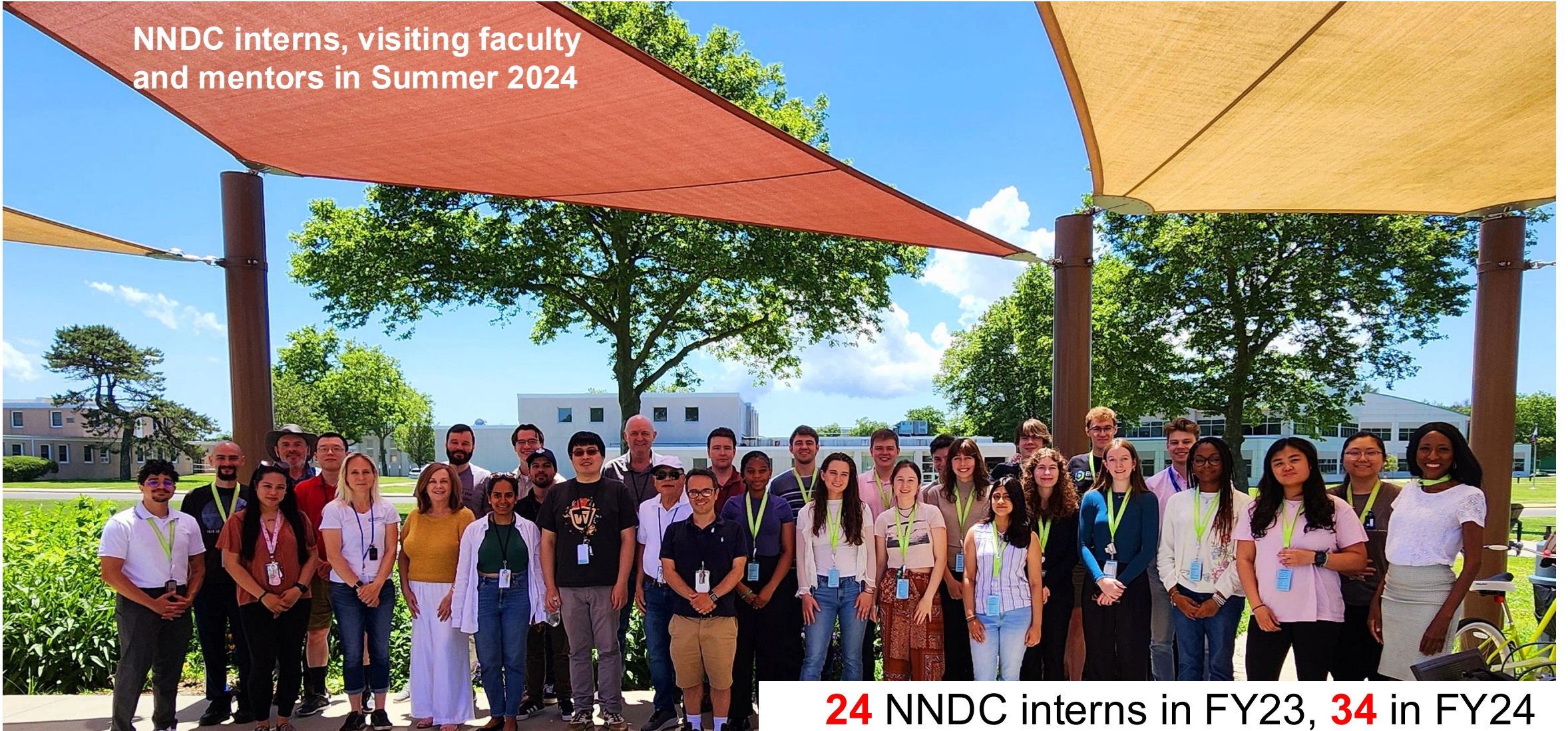
Student highlights



@BrookhavenLab

Training the next generation workforce

NNDC interns, visiting faculty
and mentors in Summer 2024



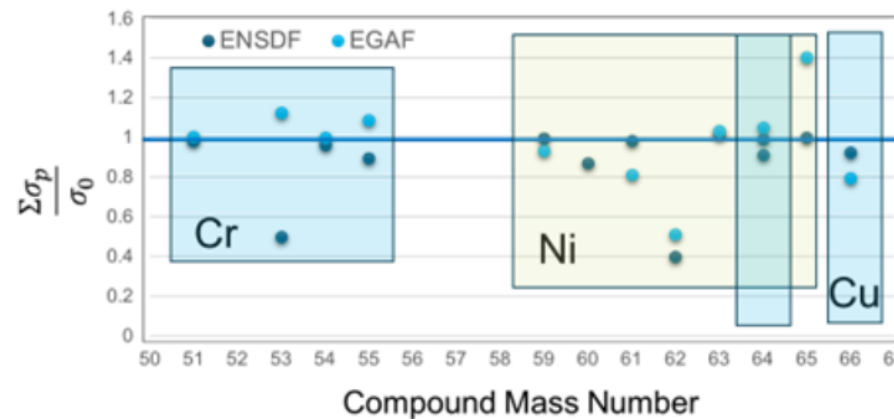
24 NNDC interns in FY23, **34** in FY24
142 interns since 2014

FAIR grant with UMASS Lowell

Improving diversity in STEM

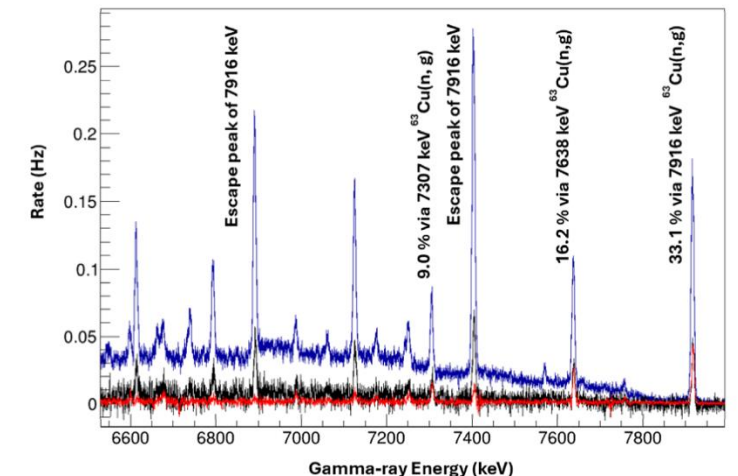
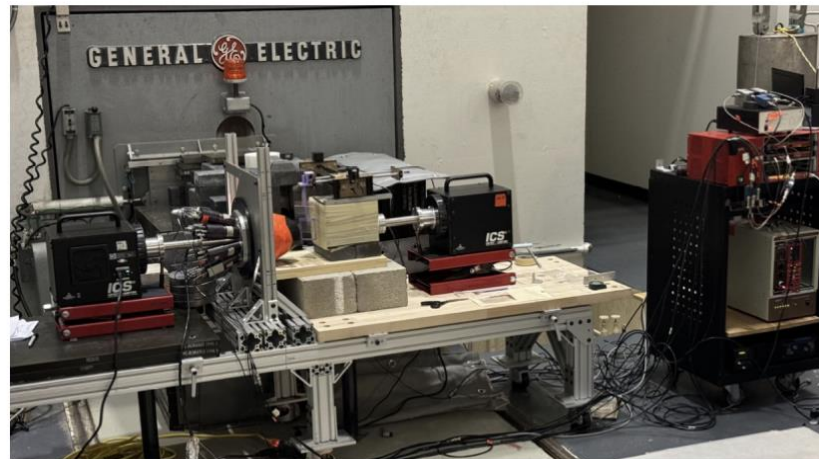


AND Improving thermal neutron capture data for ENSDF & ENDF



NatCu(n,g)

Project ending in FY26 due to change in administration priorities





National Nuclear Data Center



U.S. DEPARTMENT OF
ENERGY

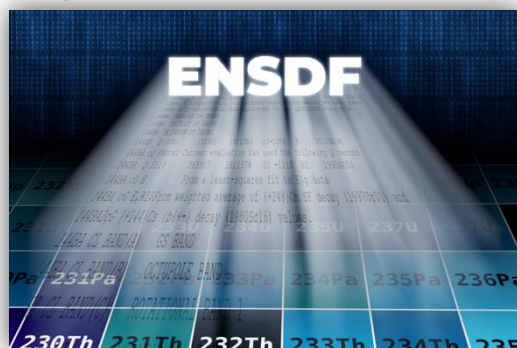
Office of
Science

Maintaining and improving nuclear data for world-wide use

Nuclear Structure and Decay

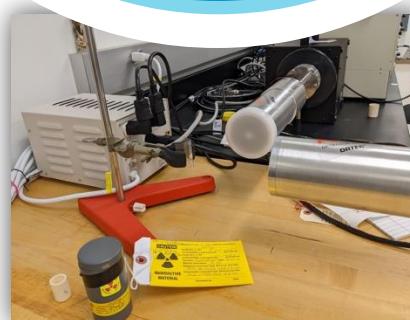
Evaluated Nuclear Structure Data File (ENSDF)

One and only database of recommended values derived from all published experimental nuclear structure and decay data.



Experimental Unevaluated Nuclear Data List (XUNDL)

Compiled nuclear structure and decay data from recently published articles



Precision measurements of decay radiation properties

Nuclear Reactions

Evaluated Nuclear Data File (ENDF)

Recommended neutron reaction data for all nuclei relevant for nuclear science and technology

ENDF/B
VIII.1



Experimental Nuclear Reaction Data (EXFOR)

World's only repository of experimental nuclear reaction data