NNDC Web Development 2019-2020

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Overview

- **Updates and improvements**
  - MIRD
- **New features**
  - Advanced Cross-Variable Plot
  - Chart of ENSDF
- **Mobile applications**
  - NuRad
  - CapGam Mobile
- **Social media outreach**

MIRD

- Database of dosage information for medical isotopes
  - Interface re-done for convenience and speed

43-TECHNETIUM-99 43-TECHNETIUM-99M

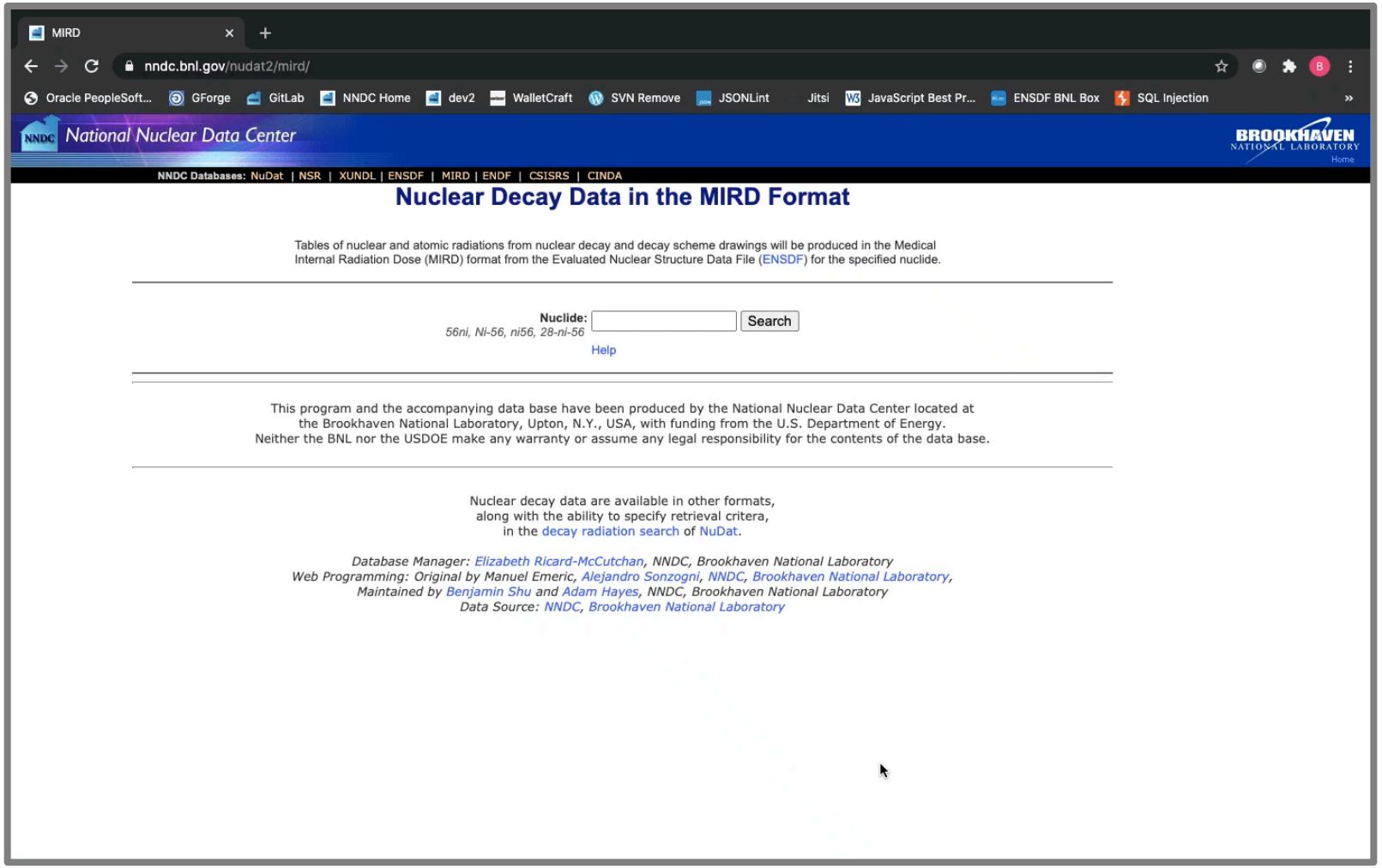
43-TECHNETIUM-99

Halflife = 2.111E+5 Years
Decay Mode: β-

Sep-2017

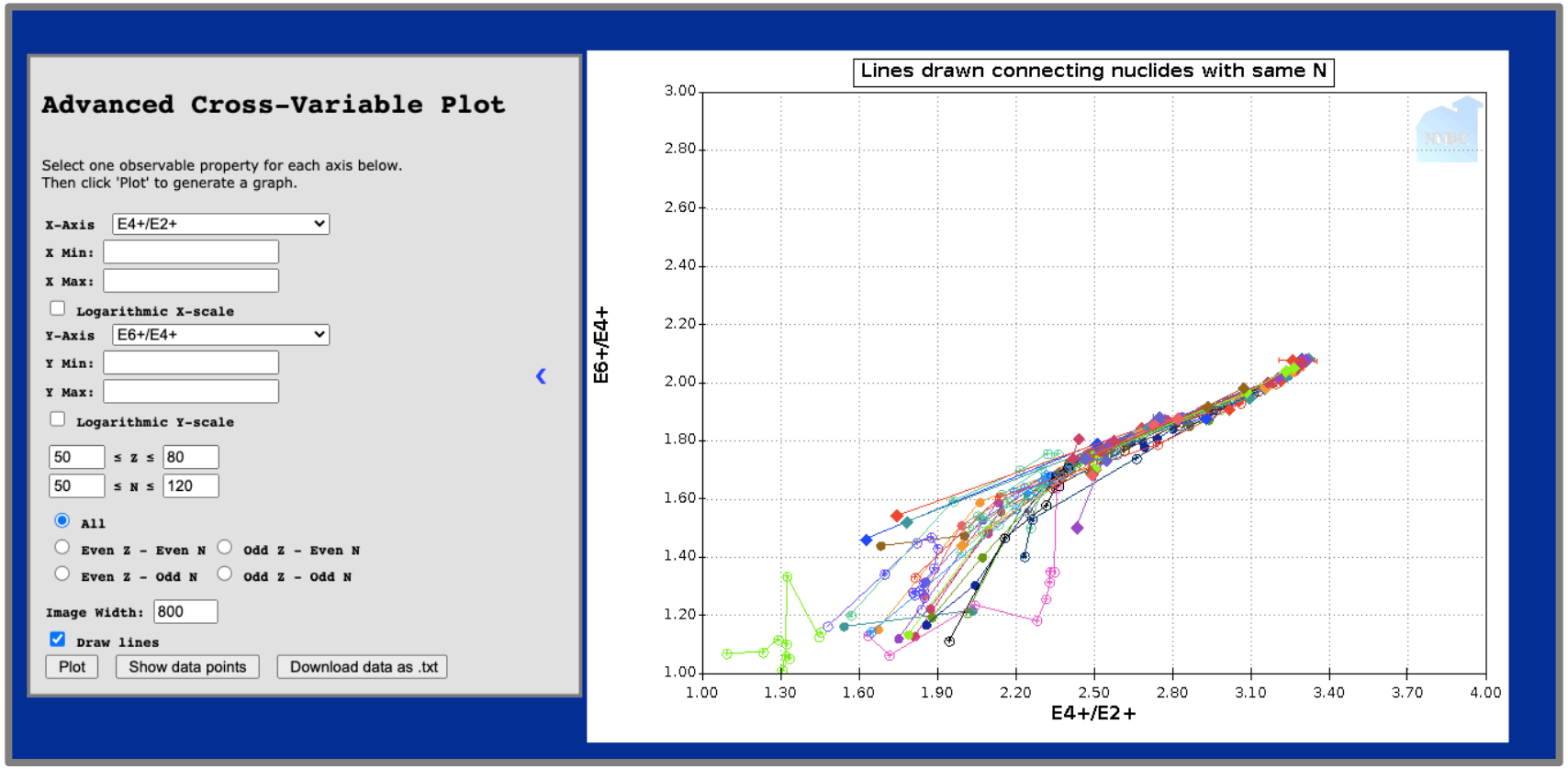
Radiations	y(i) $(Bq\text{-}s)^{-1}$	E(i) (MeV)	y(i)×E(i)
β- 1	1.60×10^{-05}	8.170×10^{-02}*	1.31×10^{-06}
β- 2	1.00	8.460×10^{-02}*	8.46×10^{-02}
γ 1	6.50×10^{-06}	8.950×10^{-02}	5.82×10^{-07}
ce-K, γ 1	7.63×10^{-06}	6.738×10^{-02}	5.14×10^{-07}
ce-L, γ 1	1.72×10^{-06}	8.628×10^{-02}a	1.49×10^{-07}

MIRD


MIRD
nndc.bnl.gov/nudat2/mird/
Oracle PeopleSoft...
GForge
GitLab
NNDC Home
dev2
WalletCraft
SVN Remove
JSONLint
Jitsi
JavaScript Best Pr...
ENSDF BNL Box
SQL Injection
National Nuclear Data Center
BROOKHAVEN NATIONAL LABORATORY
Home
NNDC Databases: NuDat | NSR | XUNDL | ENSDF | MIRD | ENDF | CSISRS | CINDA
Nuclear Decay Data in the MIRD Format
Tables of nuclear and atomic radiations from nuclear decay and decay scheme drawings will be produced in the Medical Internal Radiation Dose (MIRD) format from the Evaluated Nuclear Structure Data File (ENSDF) for the specified nuclide.
Nuclide:
56ni, Ni-56, ni56, 28-ni-56
Search
Help
This program and the accompanying data base have been produced by the National Nuclear Data Center located at the Brookhaven National Laboratory, Upton, N.Y., USA, with funding from the U.S. Department of Energy.
Neither the BNL nor the USDOE make any warranty or assume any legal responsibility for the contents of the data base.
Nuclear decay data are available in other formats, along with the ability to specify retrieval critera, in the decay radiation search of NuDat.
Database Manager: Elizabeth Ricard-McCutchan, NNDC, Brookhaven National Laboratory
Web Programming: Original by Manuel Emeric, Alejandro Sonzogni, NNDC, Brookhaven National Laboratory,
Maintained by Benjamin Shu and Adam Hayes, NNDC, Brookhaven National Laboratory
Data Source: NNDC, Brookhaven National Laboratory

Advanced Cross-Variable Plot

- Plots observable nuclear properties as functions of each other



Advanced Cross-Variable Plot

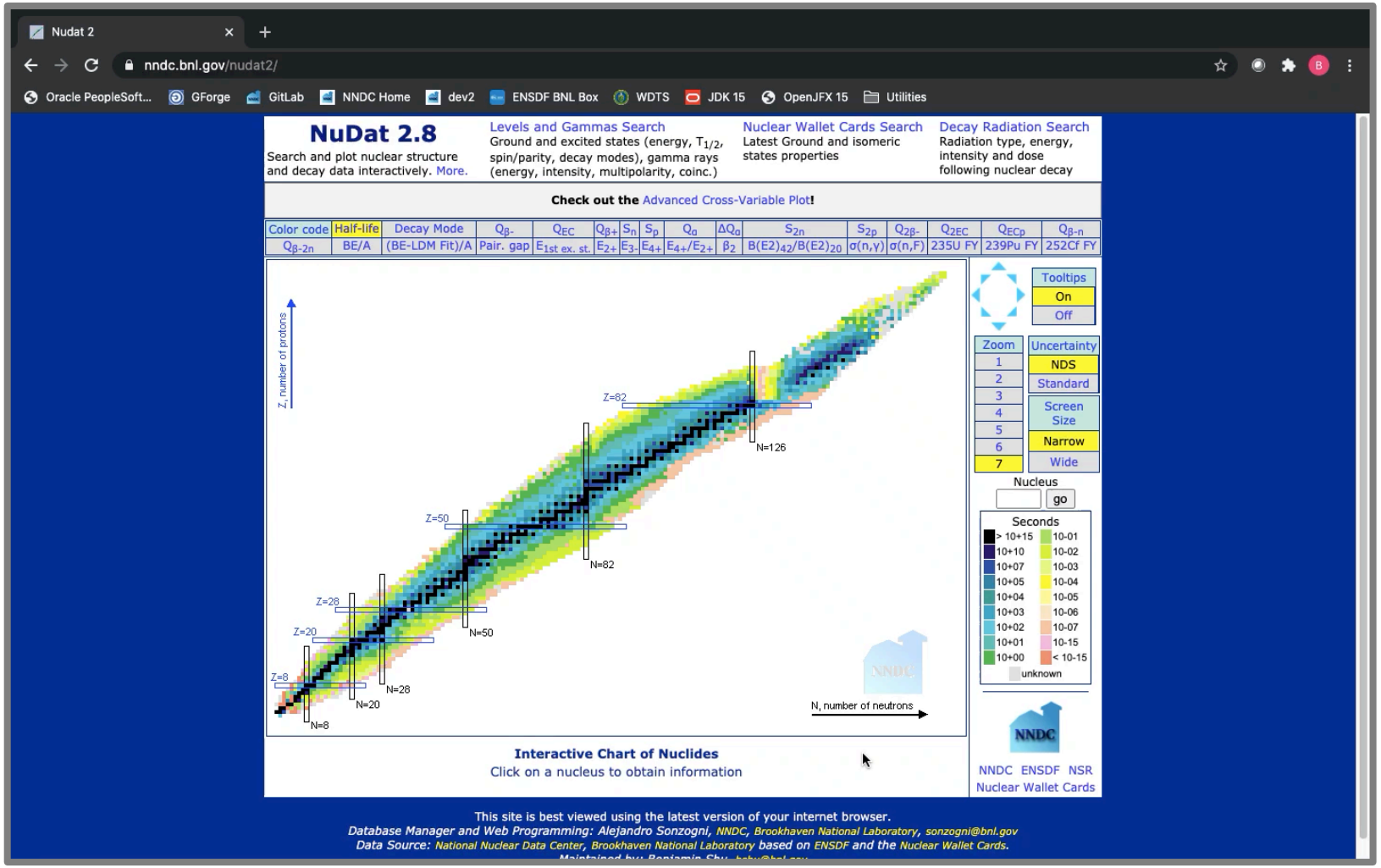


Chart of ENSDF

- Interface for visualizing ENSDF database

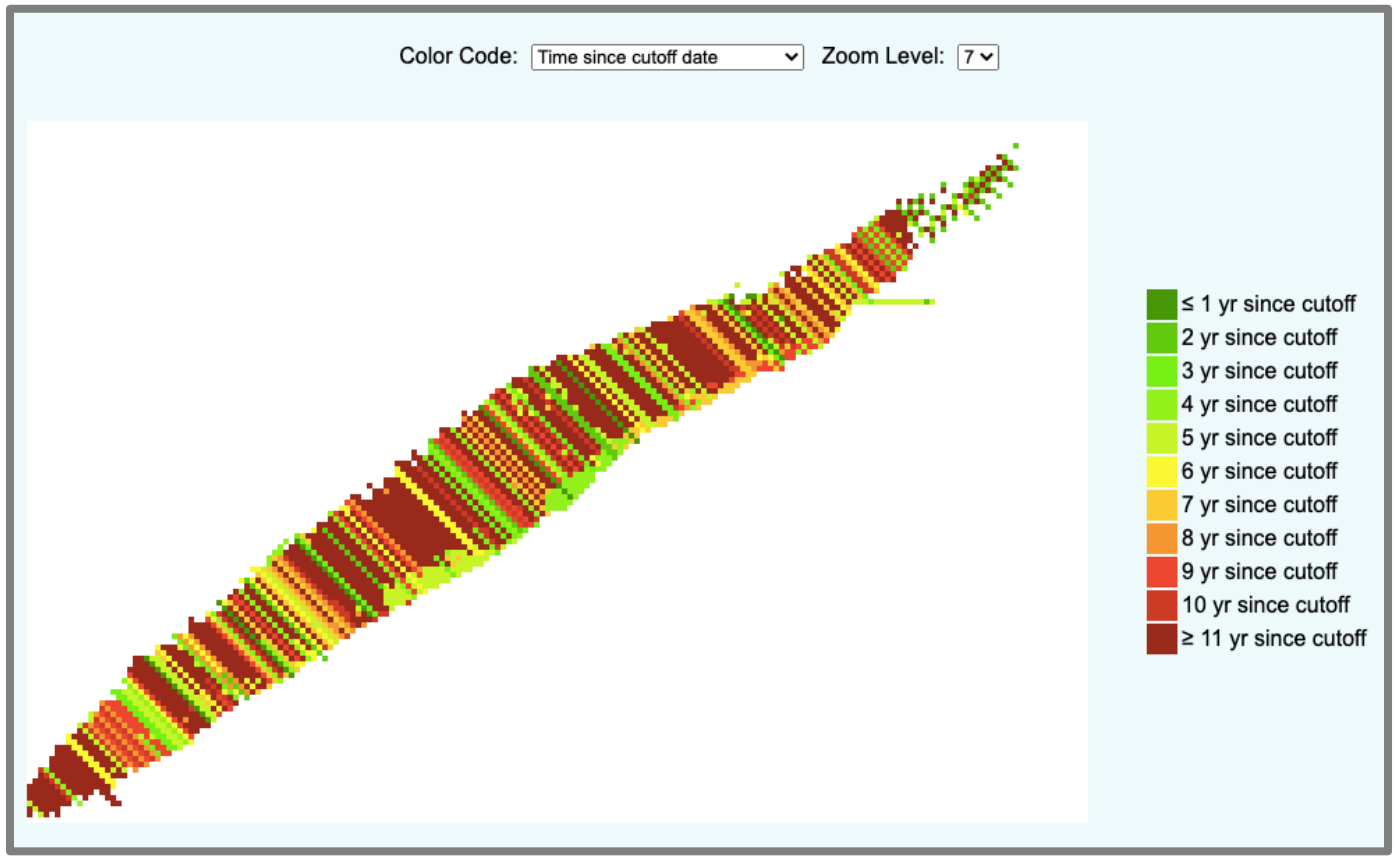
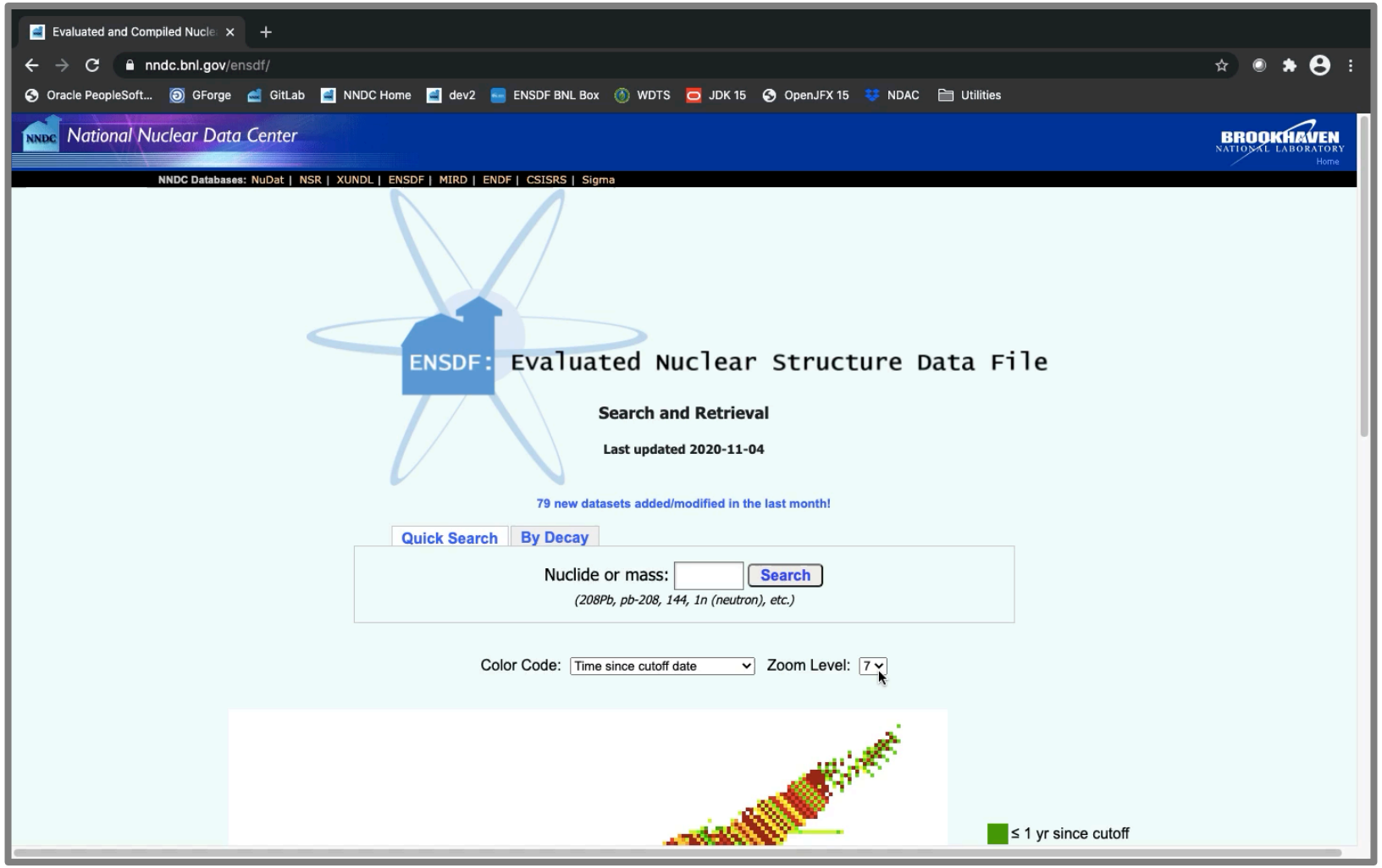
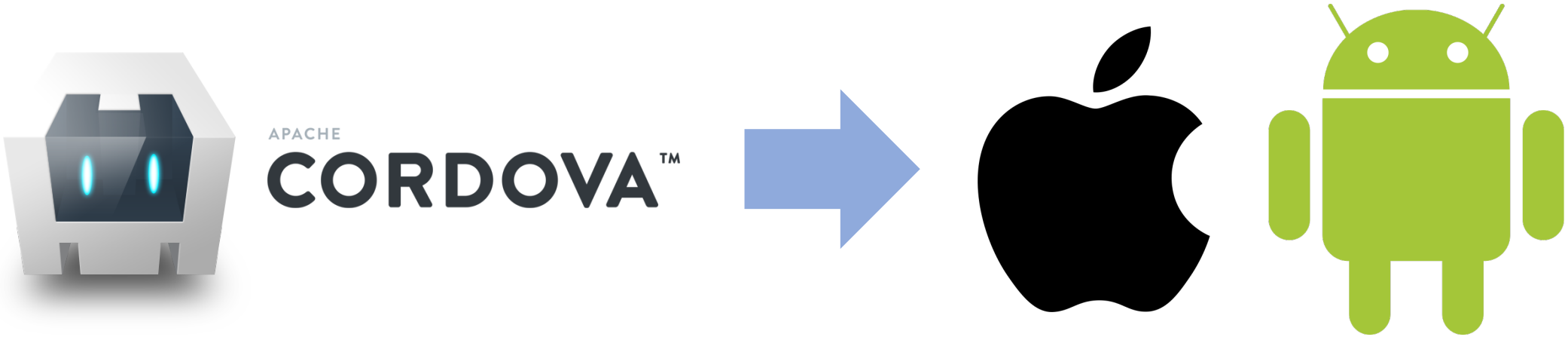


Chart of ENSDF



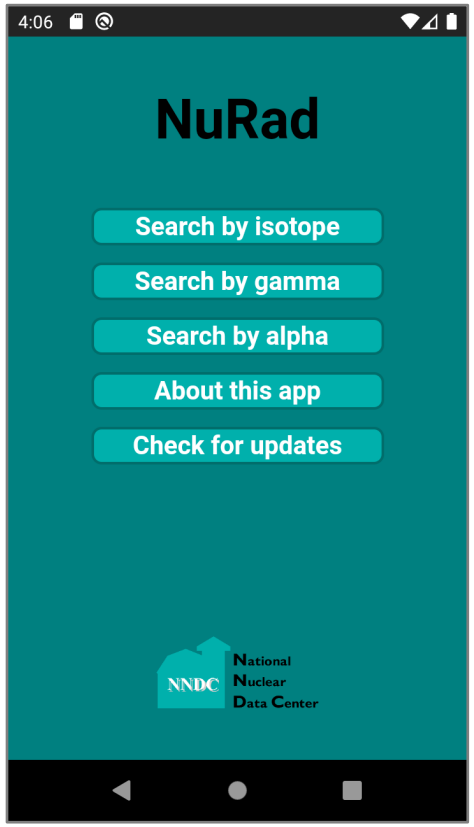
Mobile Development

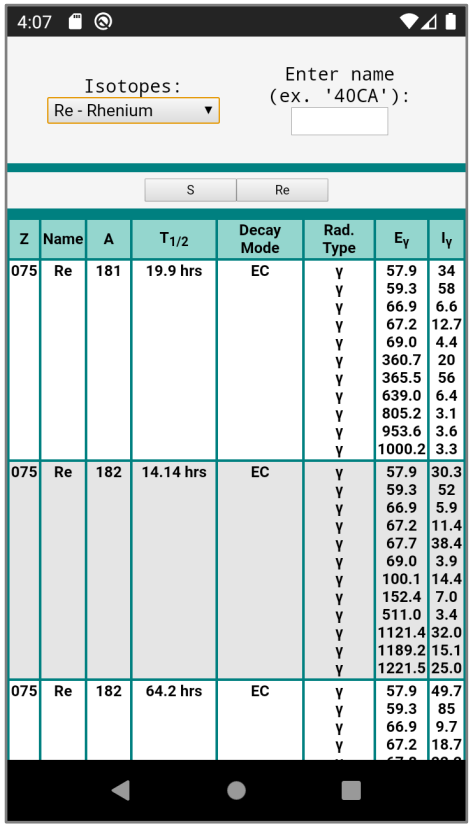
- Apps designed for portable, offline access to NNDC data
- Built for distribution on Android and iOS

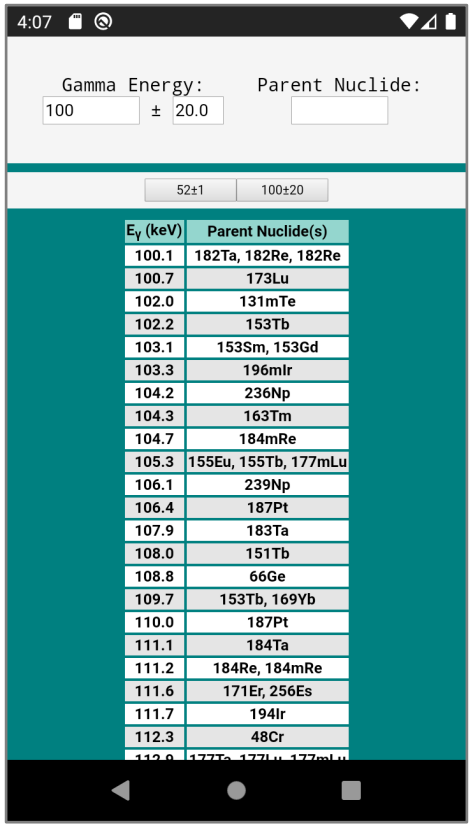


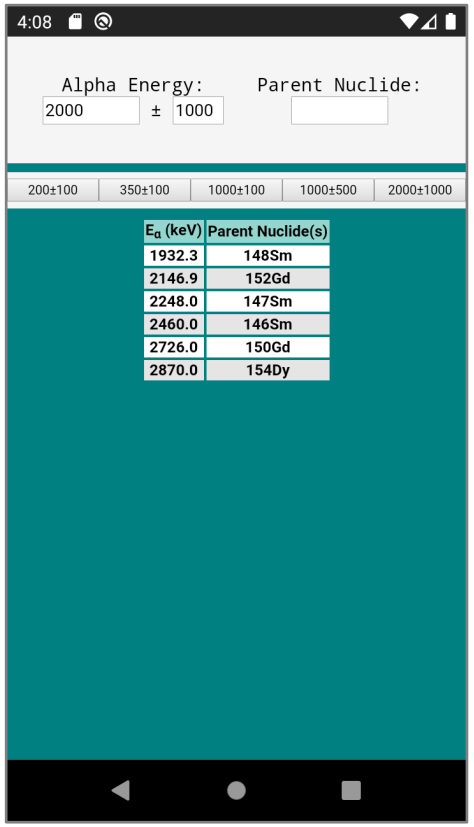
NuRad

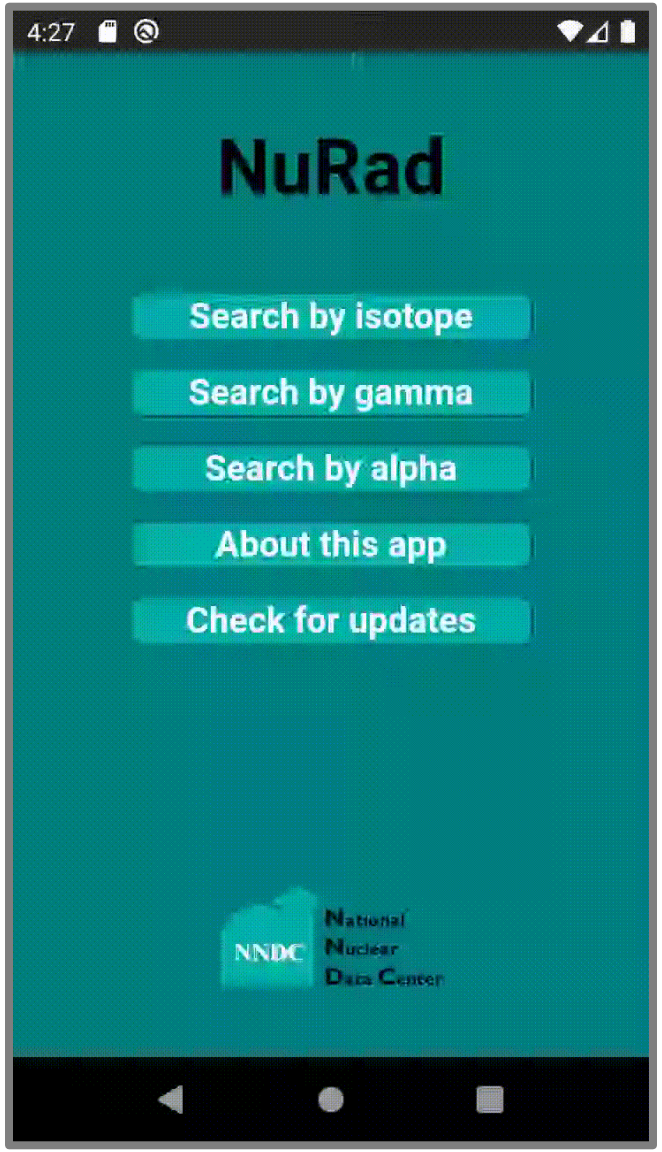
- Mobile app version of the Wallet Cards for Radioactive Isotopes





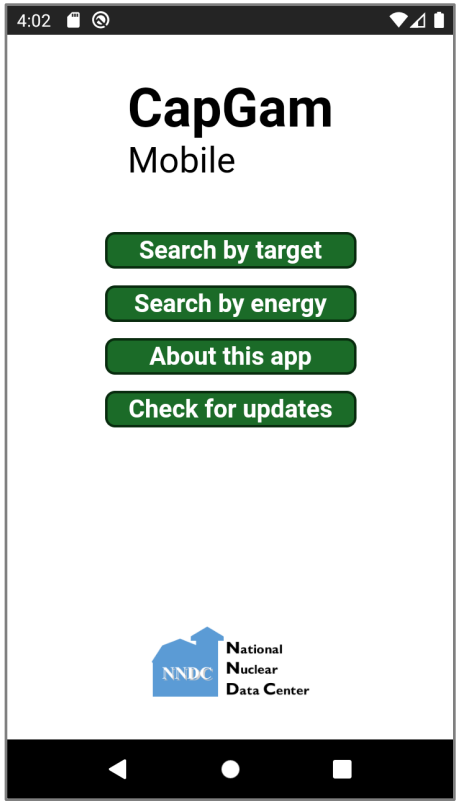


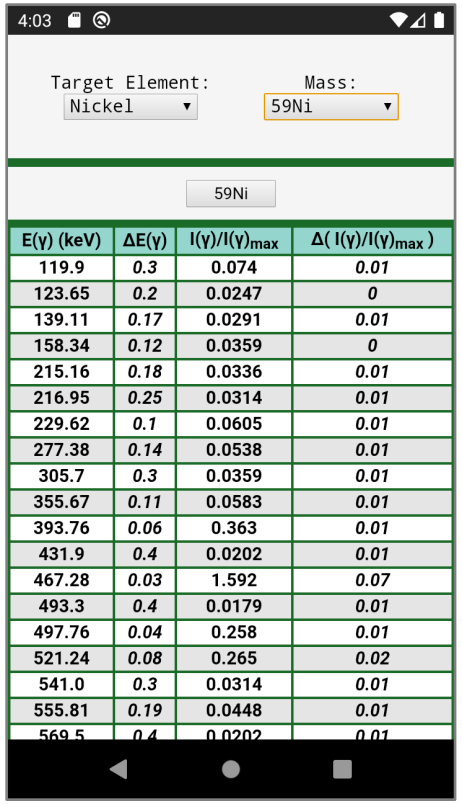



4:27
NuRad
Search by isotope
Search by gamma
Search by alpha
About this app
Check for updates
NNDC
National
Nuclear
Data Center

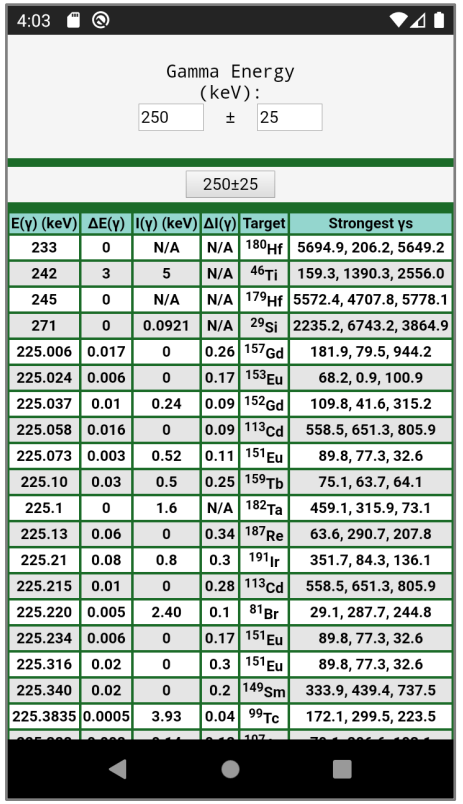
CapGam Mobile

- Offline access to thermal neutron capture data sets

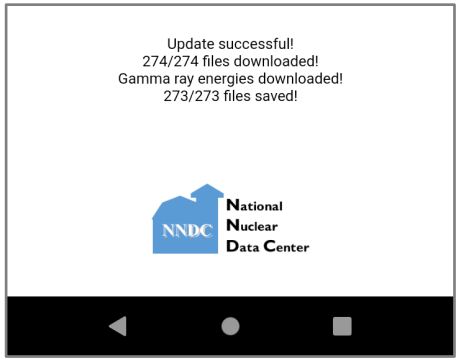


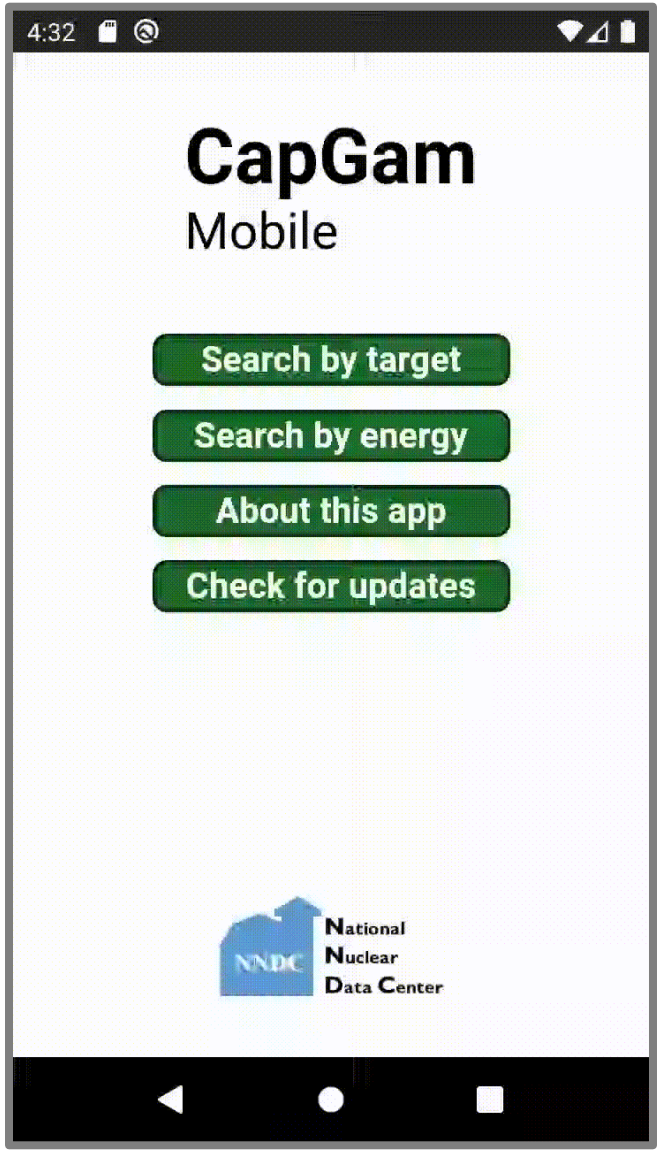


E(γ) (keV)	ΔE(γ)	I(γ)/I(γ)max	Δ(I(γ)/I(γ)max)
119.9	0.3	0.074	0.01
123.65	0.2	0.0247	0
139.11	0.17	0.0291	0.01
158.34	0.12	0.0359	0
215.16	0.18	0.0336	0.01
216.95	0.25	0.0314	0.01
229.62	0.1	0.0605	0.01
277.38	0.14	0.0538	0.01
305.7	0.3	0.0359	0.01
355.67	0.11	0.0583	0.01
393.76	0.06	0.363	0.01
431.9	0.4	0.0202	0.01
467.28	0.03	1.592	0.07
493.3	0.4	0.0179	0.01
497.76	0.04	0.258	0.01
521.24	0.08	0.265	0.02
541.0	0.3	0.0314	0.01
555.81	0.19	0.0448	0.01
569.5	0.4	0.0202	0.01



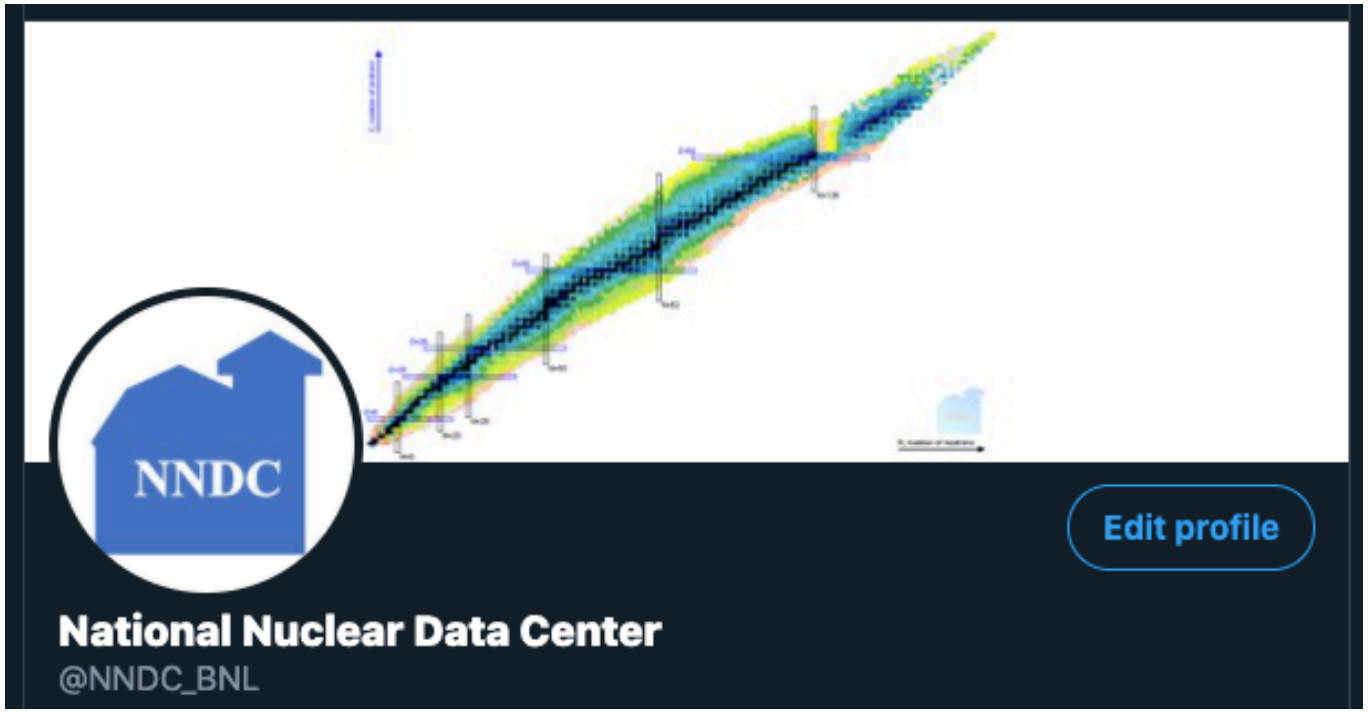
E(γ) (keV)	ΔE(γ)	I(γ) (keV)	ΔI(γ)	Target	Strongest γs
233	0	N/A	N/A	^{180}Hf	5694.9, 206.2, 5649.2
242	3	5	N/A	^{46}Ti	159.3, 1390.3, 2556.0
245	0	N/A	N/A	^{179}Hf	5572.4, 4707.8, 5778.1
271	0	0.0921	N/A	^{29}Si	2235.2, 6743.2, 3864.9
225.006	0.017	0	0.26	^{157}Gd	181.9, 79.5, 944.2
225.024	0.006	0	0.17	^{153}Eu	68.2, 0.9, 100.9
225.037	0.01	0.24	0.09	^{152}Gd	109.8, 41.6, 315.2
225.058	0.016	0	0.09	^{113}Cd	558.5, 651.3, 805.9
225.073	0.003	0.52	0.11	^{151}Eu	89.8, 77.3, 32.6
225.10	0.03	0.5	0.25	^{159}Tb	75.1, 63.7, 64.1
225.1	0	1.6	N/A	^{182}Ta	459.1, 315.9, 73.1
225.13	0.06	0	0.34	^{187}Re	63.6, 290.7, 207.8
225.21	0.08	0.8	0.3	^{191}Ir	351.7, 84.3, 136.1
225.215	0.01	0	0.28	^{113}Cd	558.5, 651.3, 805.9
225.220	0.005	2.40	0.1	^{81}Br	29.1, 287.7, 244.8
225.234	0.006	0	0.17	^{151}Eu	89.8, 77.3, 32.6
225.316	0.02	0	0.3	^{151}Eu	89.8, 77.3, 32.6
225.340	0.02	0	0.2	^{149}Sm	333.9, 439.4, 737.5
225.3835	0.0005	3.93	0.04	^{99}Tc	172.1, 299.5, 223.5




4:32
CapGam
Mobile
Search by target
Search by energy
About this app
Check for updates
NNDC
National
Nuclear
Data Center

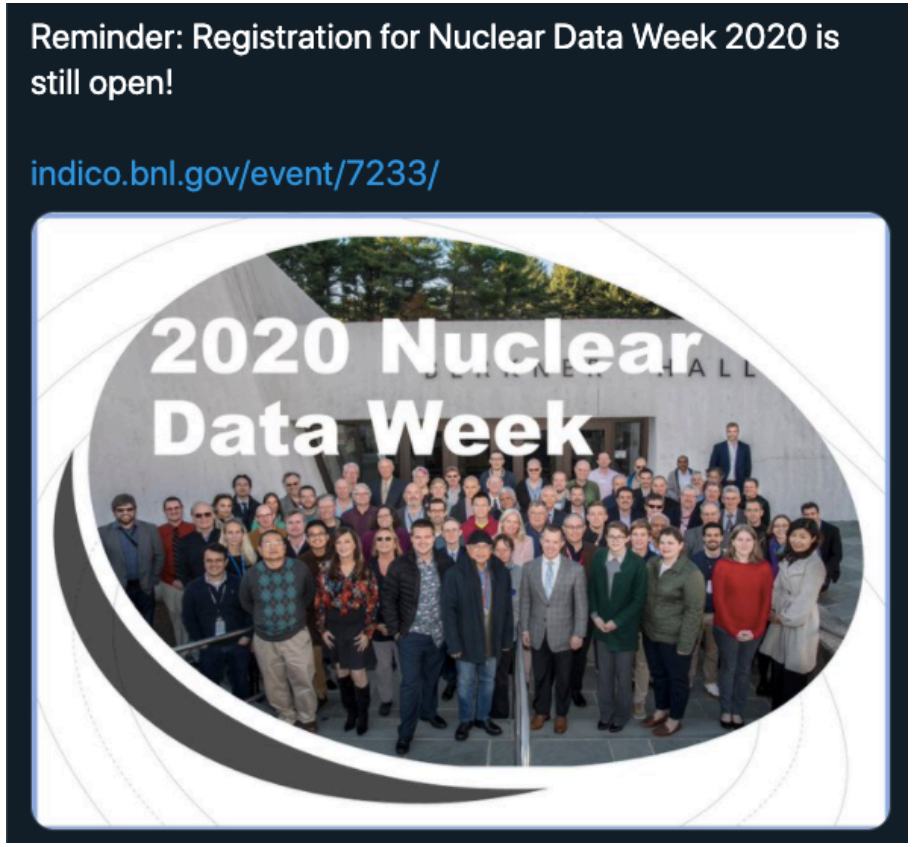
Social Media

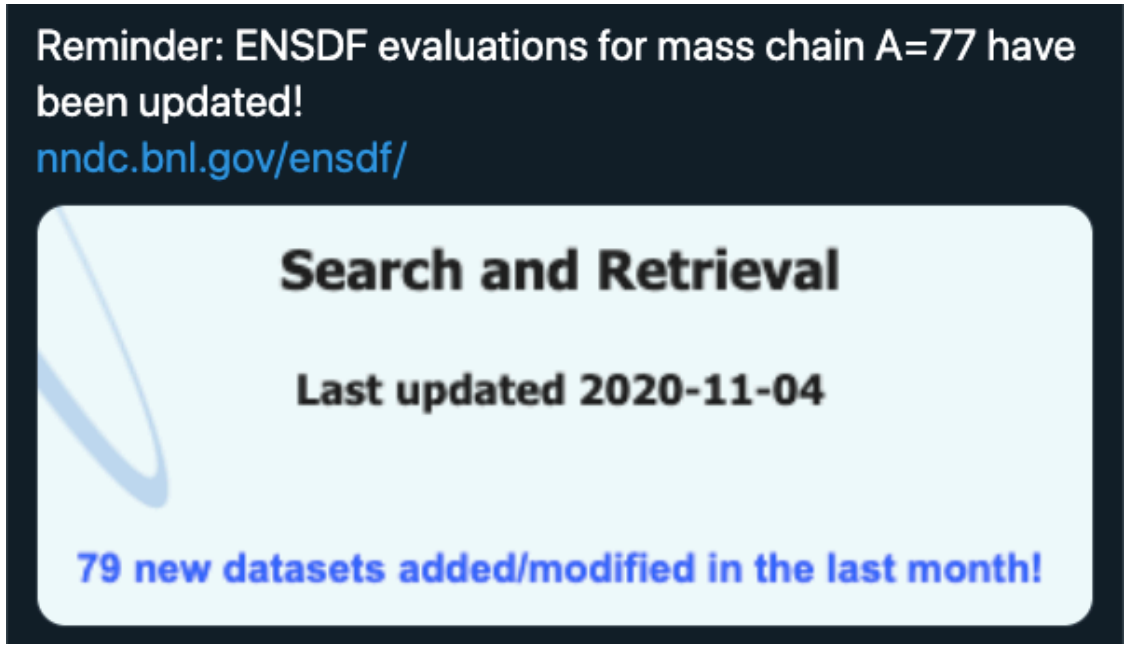
- The NNDC is now on Twitter! (@NNDC_BNL)
  - https://twitter.com/NNDC_BNL



Social Media

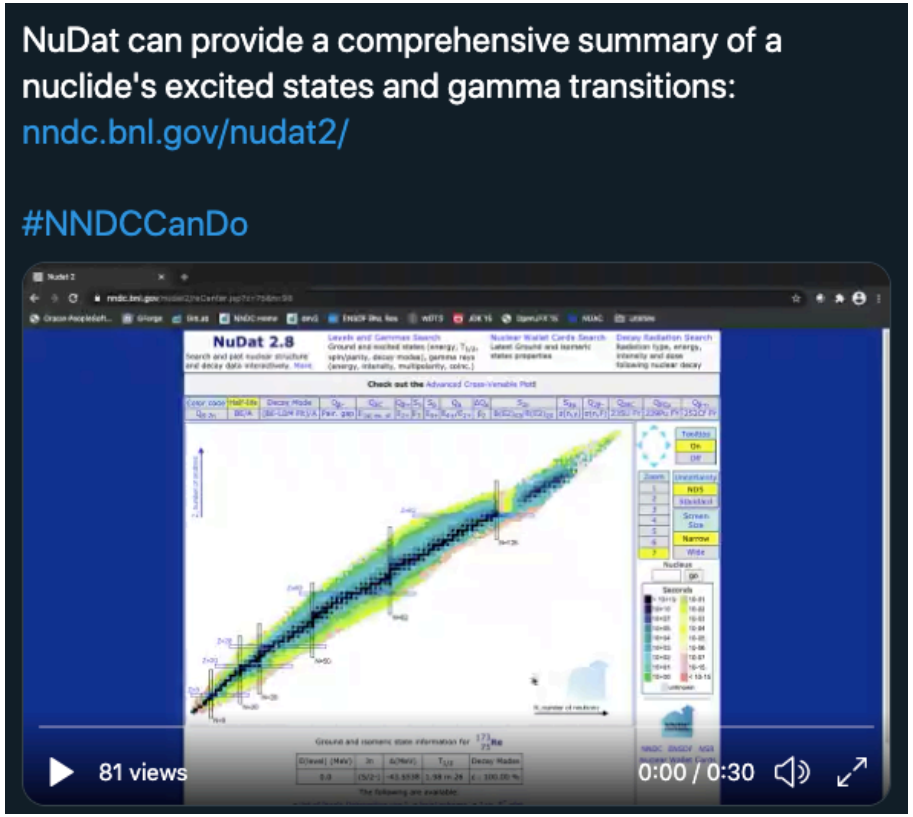
- Announcements for new events and features

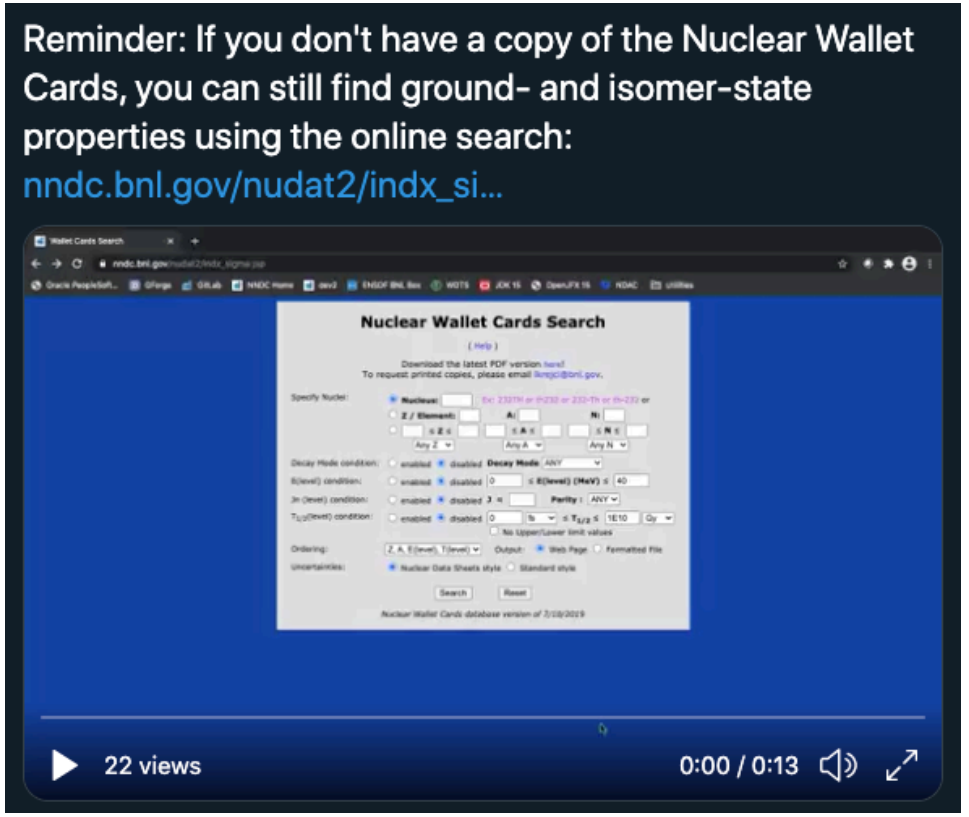




Social Media

- ”How-to” videos for explaining web services





Suggestions/Feedback

- What changes would you like to see?
  - New features?
  - Website updates?
  - Twitter content?

- bshu@bnl.gov