



International Atomic Energy Agency

LiveChart

D. Abriola & A. Vasaros

Nuclear Data Section

Department of Nuclear Sciences and Applications

NSDD Meeting, IAEA, April 2011

NSDD activities in the IAEA

Hot Topics » ENDF/B-VII.0 • Safeguards data • WIMS-D Library • Fission Yields • ADS News » June 2009, POINT2009 Released

- Request
- CD/DVD with documentation, data, codes, etc.
- Quick Links
- ADS-Lib
- Atomic Mass Data Centre
- CINDA
- Charged particles XS
- DROSG-2000
- EMPIRE-II
- ENDF
- ENDF Archive
- ENDF Utility Codes
- ENDVER
- ENSDF
- ENSDF ASCII Files
- ENSDF programs
- EXFOR
- FENDL-2.1
- Fission Yields
- GANDR

NEW

- RIPL-3** reference parameters for nuclear model calculations, 2010 [page]
- JENDL-4.0** Japanese evaluated nuclear data library, 2010 [page] [list] [retrieve]
- ROSFOND-2010** Russian Library of Evaluated Neutron Data [page] [list]

Main | All | Reaction Data | Structure & Decay | by Applications | Doc & Codes | Index | Events

EXFOR Experimental nuclear reaction data

LiveChart of Nuclides Interactive Chart of Nuclides: Advanced and Basic

CINDA neutron reaction bibliography

ENDF Evaluated nuclear reaction libraries

ENSDF evaluated nuclear structure and decay data (+XUNDL) **

NSR Nuclear Science References *

NuDat 2.5 selected evaluated nuclear structure data	RIPL reference parameters for nuclear model calculations	IBANDL Ion Beam Analysis Nuclear Data Library	Charged particles XS Beam monitor & radionuclide production cross sections
PGAA Prompt gamma rays from neutron capture	FENDL-2.1 Fusion Evaluated Nuclear Data Library, Version 2.1	Photonuclear cross sections and spectra up to 140MeV	IRDF-2002 International Reactor Dosimetry File
NGATLAS atlas of neutron capture cross sections	Safeguards Data recommendations, August 2008	Medical Portal Data for Medical Applications	Standards - Neutron cross-sections, 2006 - Decay data, 2005

*Database at the IAEA, Vienna **Database at the US NNDC

IAEA Nuclear Data Section

- IAEA-NDS Mission, Staff and more
- Atomic and Molecular Data
- Meetings Workshops
- Newsletters
- Coordinated Research Projects
- Nuclear Reaction Data Center Network
- Nuclear Structure & Decay Data Network
- Technical Reports, TECDOCs
- INDC(NDS) Reports
- Computer Codes

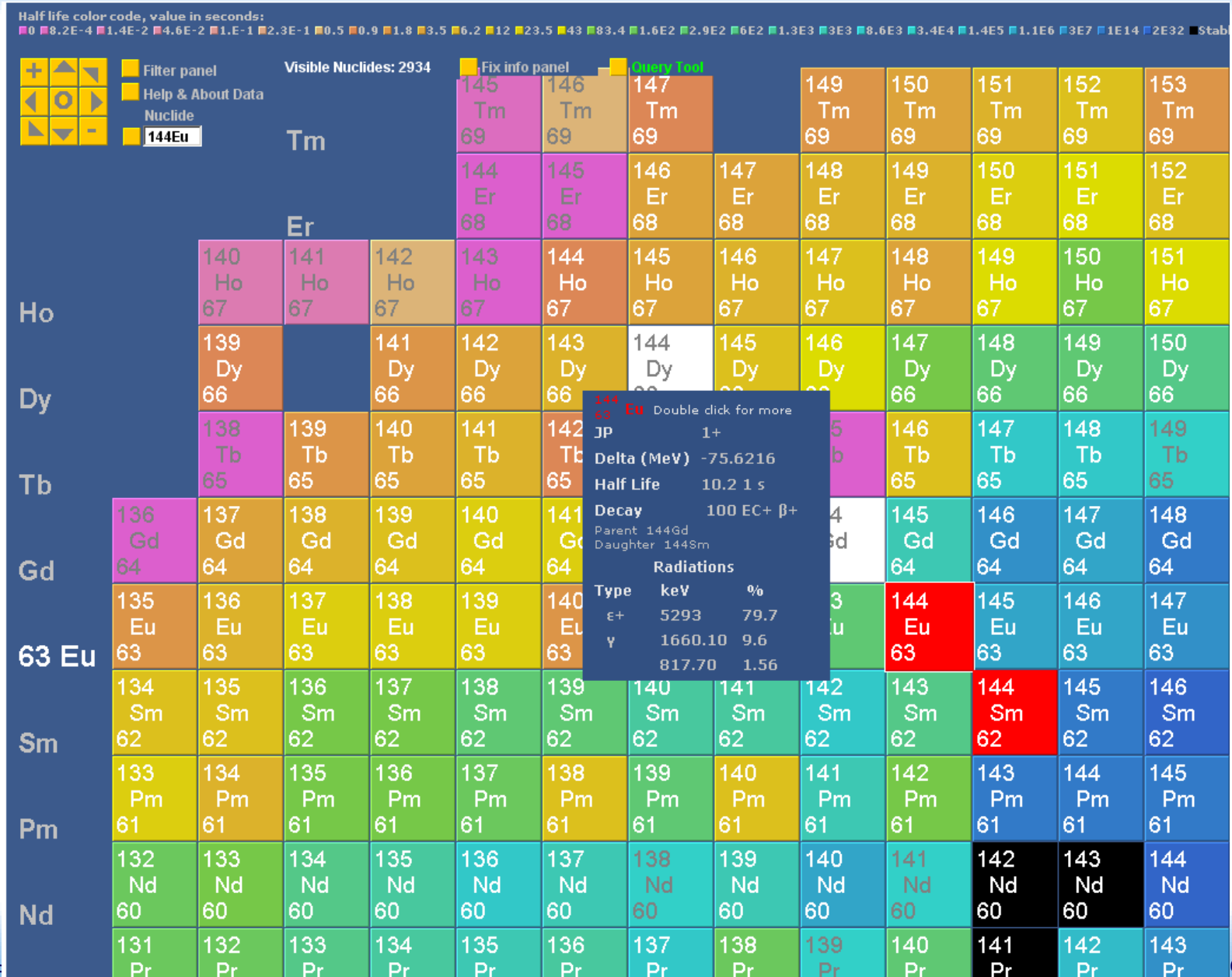
© Copyright 2007-2010, International Atomic Energy Agency - Nuclear Data Section.
Vienna International Centre, P.O. Box 100, A-1400 Vienna, Austria
Telephone (+431) 2600-0. Facsimile (+431) 2600-7. E-mail: online@iaea.org. Read our [Disclaimer](#)

Last Updated: 22-October-2010

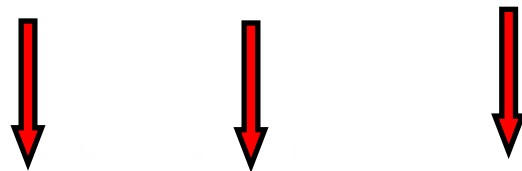
Web design: V.



LiveChart: M.Verpeli & A.Vasaros



Main data of the nuclide:



Nuclide	J^π	Mass excess (MeV)	Natural abundance or half life	Decay modes mode branch	Major radiations E(keV) intensity	σ (barn)	Nuclear Charge Radii R *	μ ** (nm)	Q ** (b)
$^{144}_{63}\text{Eu}$	1+	-75.6216	10.2 s 1	ec β^+ 100%	β^+ 5293 79.7% γ 1660.1 9.6% 817.7 1.56%		4.9632(91)	1 +1.893(13) +1.893(13) 1985Ah02	2 +0.1(3) +0.10(3) 1985Ah02

* - The reference of nuclear charge radii data is [2010anxx](#).

** - ENSDF is the source for all data retrieved, except marked with the original reference from [2005st26](#).

Chain of Parents and Daughters:

144DY 144TB 144GD **144EU** 144SM

Level scheme of the nuclide:



Open level scheme

Level table of the nuclide:

Nuclear Charge Radii - 2010

Angeli, I.¹⁾ and Marinova, K.P.²⁾

1) Institute of Experimental Physics, University of Debrecen, H-4010 Debrecen, Pf. 105. Hungary.

2) Joint Institute for Nuclear Research, 141980 Dubna, Moscow Region, Russia.

E-mails: angeli@tigris.unideb.hu and marinova@nrmil.jinr.ru

Nick Stone (2010 data)

Nucleus	Ex	T1/2	I	μ (nm)	Q(b)	[Ref. Std.]	Method	NSR Keynumber	Journal Reference	
0 n 1	0	10.6 m	1/2+	-1.9130427(5) d	R		N,R	2000Mo36	RMP 72 351 (00)	
1 H 1	0	stable	1/2+	+2.79284734(3) d	R		M/N,R	2000Mo36	RMP 72 351 (00)	
1 H 2	0	stable	1+	+0.857438228(9) d +0.857438240(12) d	R	[1H]	N,R	2000Mo36	RMP 72 351 (00)	
						[1H]	N	2005KA25	Can.J.Phys. 83 405 (05)	
					+0.00286(2) st 0.0028(2)	R	MB,R CIAN	1979Bi14 1985Ka05	PR A20 381 (79) NP A435 502 (85)	
1 H 3	0	12.33 y	1/2+	+2.97896244(4)	R	[1H]	N,R	1977Ne16	ZETF 72 1659 (77)	
2 He 3	0	stable	1/2+	-2.12749772(3)	R	[1H]	N,R	2000Mo36	RMP 72 351 (00)	
3 Li 6	0	stable	1+	+0.8220473(6) +0.822567(3)	R	[2H]	AB/D N	1974Be50 1968LU07/1967LU06/	ZP 270 173 (74) ZNat 23a 1202 (68)/PL A25 440 (67)/ PR C72 044309 (05)	
							R	1954WA37 2005BO45	ORNL-1775 (54)	
					-0.000806(6) -0.00082(2) a -0.00083(8) st	R	[7Li] [7Li]	R MB,R MB,R	1998Ce04 1998Ce04 1984Su09	PR A57 2539 (98) CPL 112 1 (84)
3 Li 7	0	stable	3/2-	+3.256427(2) +3.2564625(4)	R	[2H]	AB/D N	1974Be50 1968LU07/1967LU06	ZP 270 173 (74) ZNat 23a 1202 (68)/PL 25A 440 (67)	
							R	R	Mol.Phys. 99 1617 (01)	
					-0.0400(3) -0.0406(8) a -0.0406 st -0.0370(8) -0.041(6) -0.059(8) -0.040(11) -0.0400(6) -0.0400(3) -0.0406(8)	R	MB,R MB,R CIAN OD,OL OL CER CER CER R	1998Ce04 1984Su09 1985We08 1975Or01 1978Na22 1984Ve03/1984Ve08 1991Vo06 1991Vo06 1989Ba80	PR A57 2539 (98) CPL 112 1 (84) PRL 55 480 (85) ZP A273 221 (75) PR A17 1394 (78) PL B138 365 (84)/AuJP 37 273 (84) NP A530 475 (91) NP A530 475 (91) AuJP 42 597 (89)	
3 Li 8	0	842 ms	2+	+1.65356(2)	R	[1H]	β -NMR	1978Wi13/1962Co08	PL A67 423 (78)/PR 126 1506 (62)	
							R	β -NMR	2005BO45	
						[7Li]	β -NMR	1977Du06	PR C72 044309 (05)	
						[7Li]	CFBLS/ β -NMR	1988Ar17	ZP A331 295 (88)	
						[7Li]	β -NQR	1992Mi18	PRL 69 2058 (92)	
					sign positive	[6,7Li]	NMR	1994Ja05	NP A568 544 (94)	
3 Li 9	0	178 ms	3/2-	3.43678(6) 3.4391(6) 3.434(5)	R	[8Li]	β -NMR	2005BO45	PR C72 044309 (05)	
						[1H]	β -NMR	1983Co11	PR C28 862 (83)	
						[8Li]	CFBLS/ β -NMR	1988Ar17	ZP A331 295 (88)	
					(-)0.0306(2)	R	β -NMR	2005BO45	PR C72 044309 (05)	

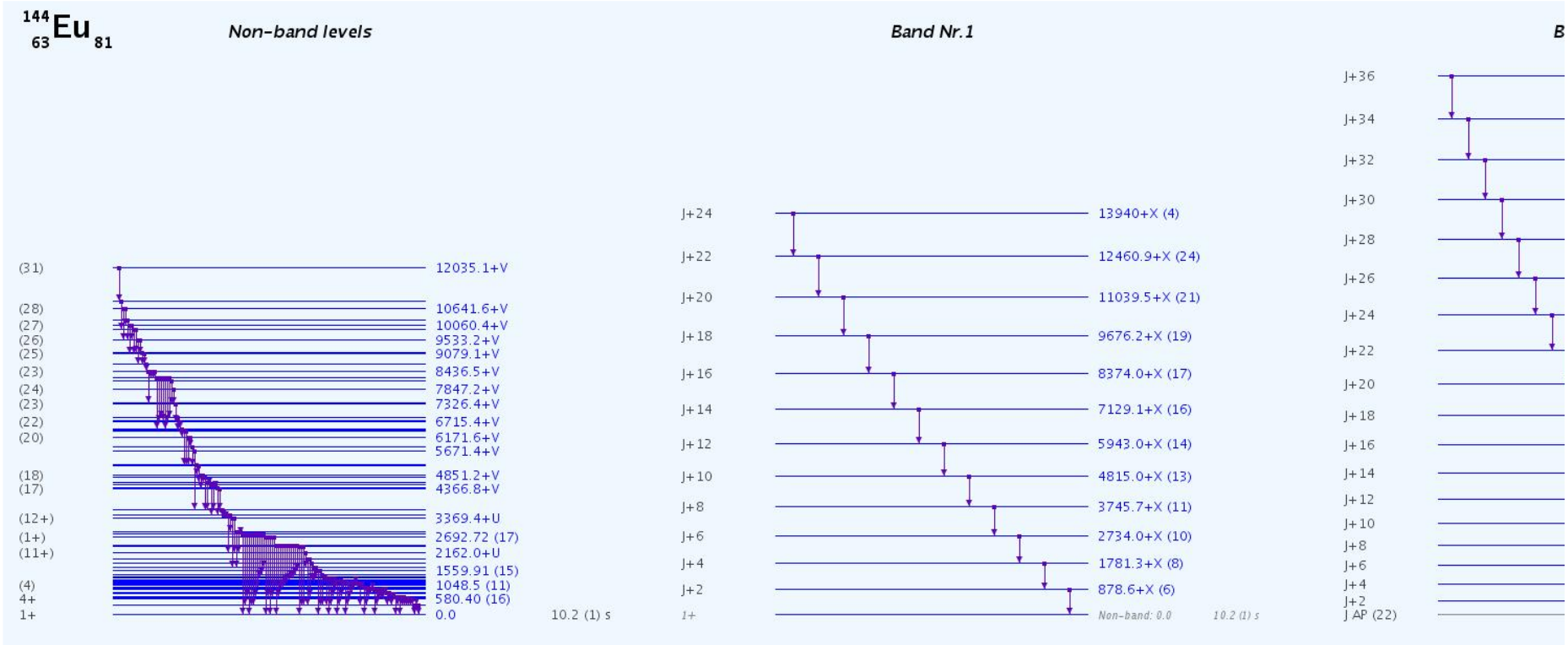


LiveChart

< Energy <
 Image height:
 Level width:
 Band spacing:
 Emphasise level: and/or gamma

Show level energy
 Show spin-parity
 Show half life
 Show gamma
 Show all (possible overlapping)
 Show legend

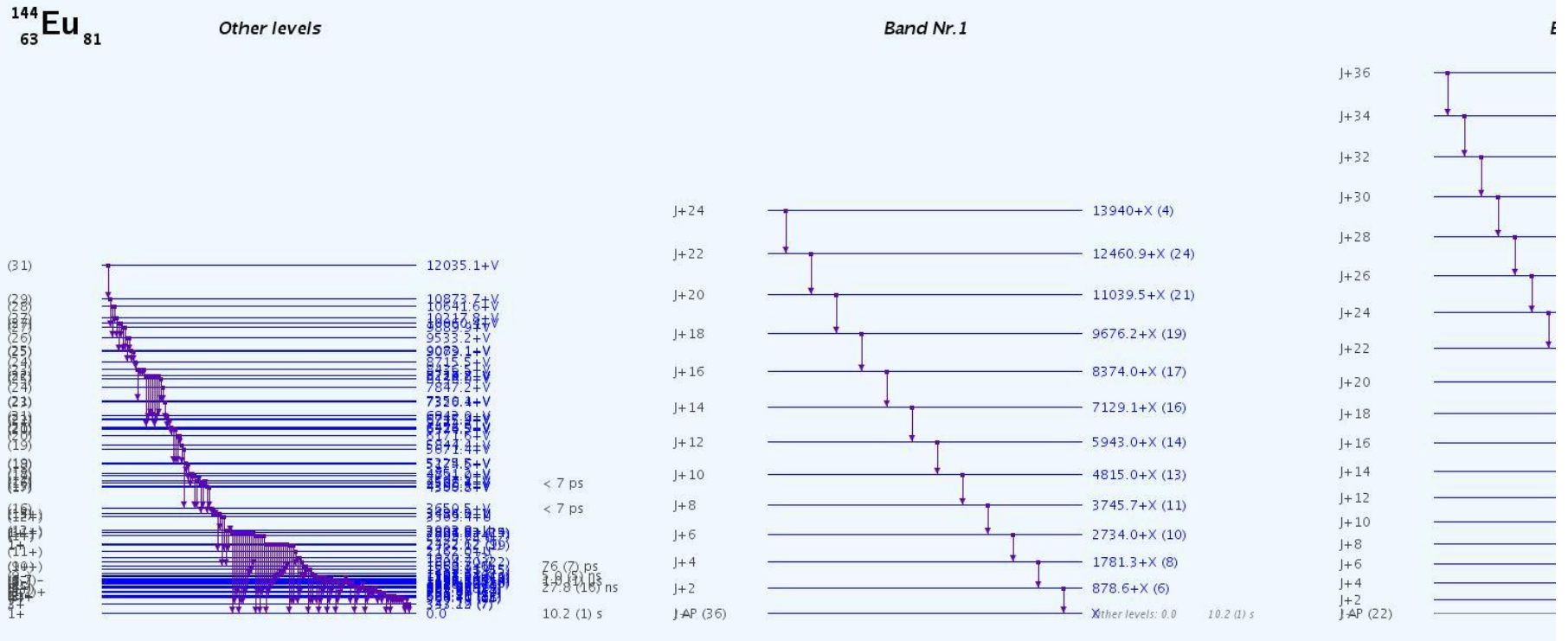
Non-band
 Band 1
 Band 2
 Band 3
 Band 4



See extract from [ENSDF Datasets](#) of ¹⁴⁴Eu (snapshot October 2009).

Atoms for Peace





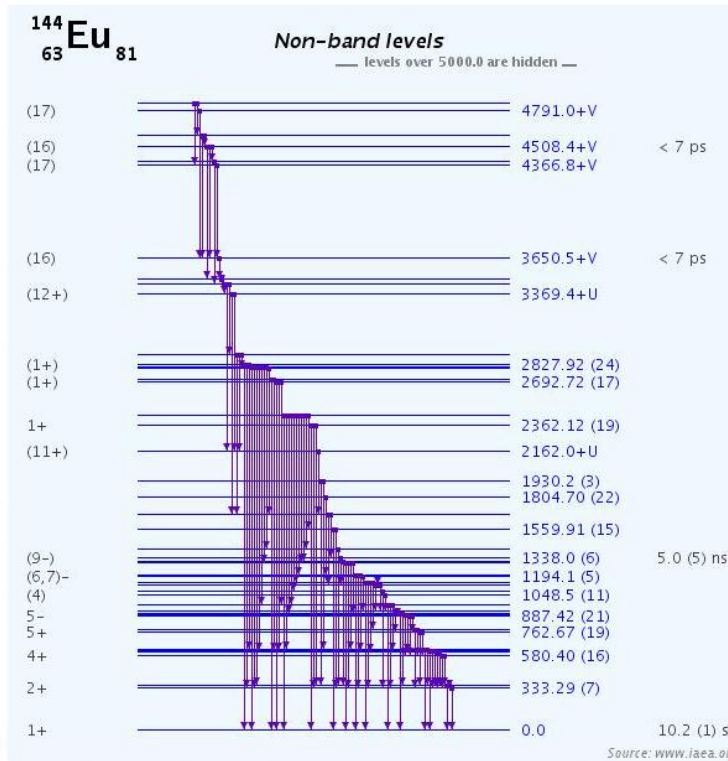
LiveChart



0.0 < Energy < 5000.0 Image height: 600 Level width: 300 Band spacing: 20 Emphasise level: 0.0 and/or gamma 0.0

Show level energy Show spin-parity Show half life Show gamma Show all (possible overlapping) Show legend

Non-band Band 1 Band 2 Band 3 Band 4 Download as



See extract from [ENSDF Datasets](#) of ¹⁴⁴Eu (snapshot October 2009).

Atoms for Peace

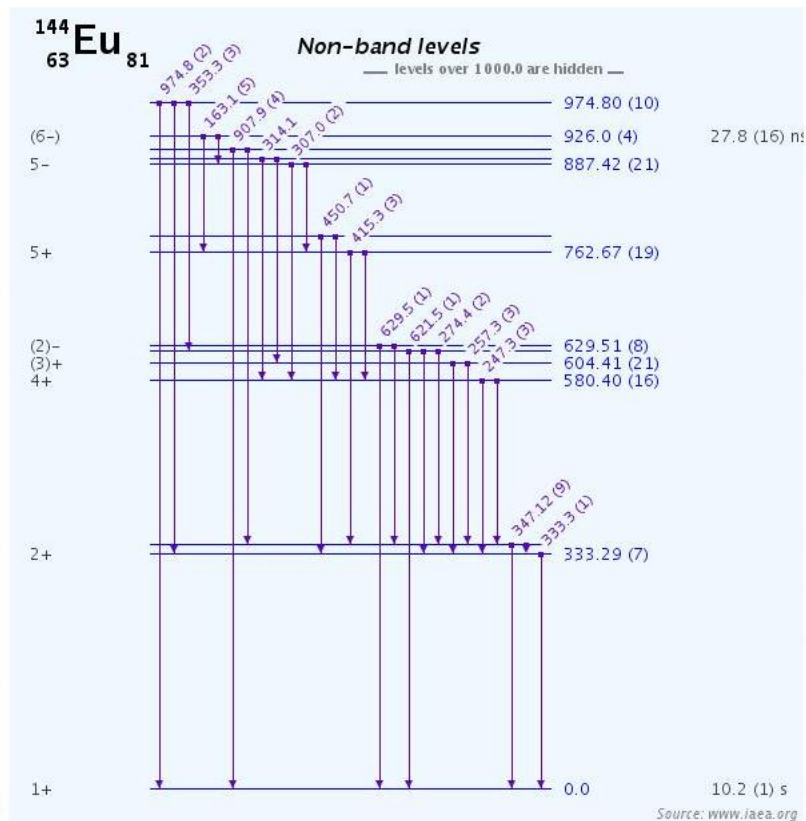
LiveChart



0.0 < Energy < 1000.0 Image height: 600 Level width: 300 Band spacing: 20 Emphasise level: 0.0 and/or gamma 0.0

Show level energy Show spin-parity Show half life Show gamma Show all (possible overlapping) Show legend

Non-band Band 1 Band 2 Band 3 Band 4



See extract from [ENSDF Datasets](#) of ¹⁴⁴Eu (snapshot October 2009).

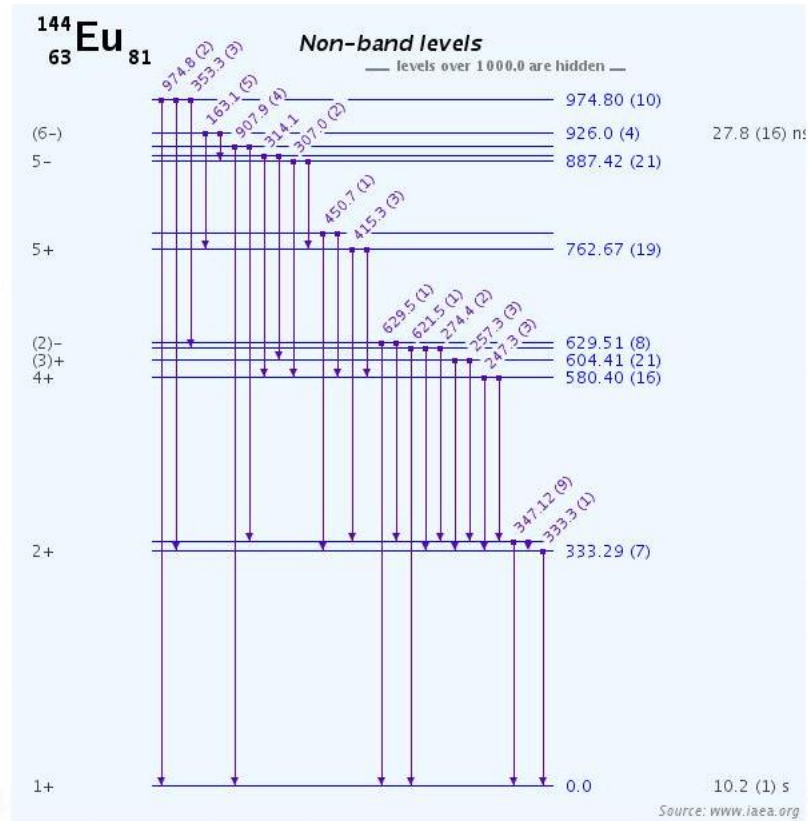
LiveChart



0.0 < Energy < 1000.0 Image height: 600 Level width: 300 Band spacing: 20 Emphasise level: 0.0 and/or gamma 0.0

Show level energy Show spin-parity Show half life Show gamma Show all (possible overlapping) Show legend

Non-band Band 1 Band 2 Band 3 Band 4

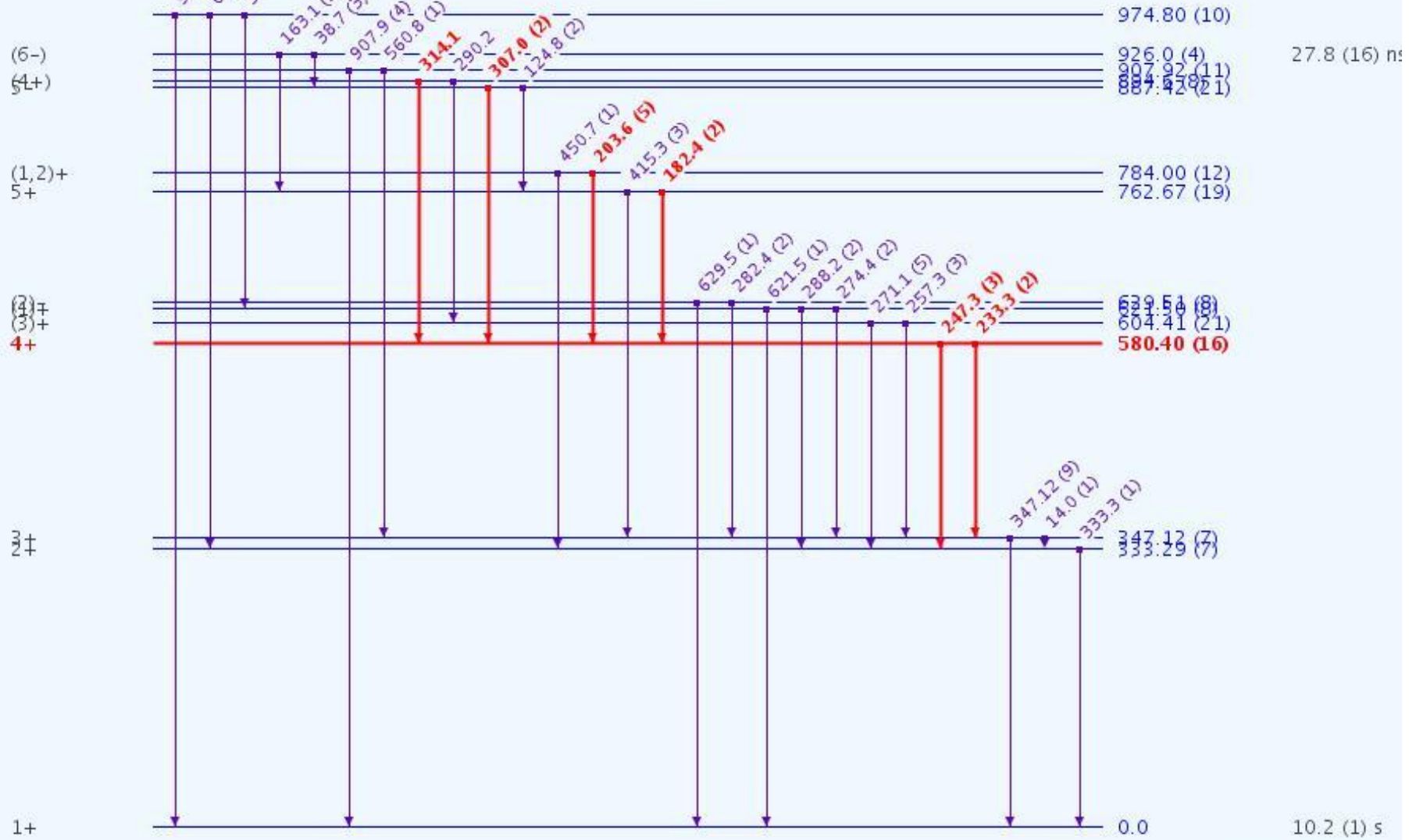


See extract from [ENSDF Datasets](#) of ¹⁴⁴Eu (snapshot October 2009).

¹⁴⁴₆₃Eu ₈₁

Other levels

— levels over 1000.0 are hidden —



Source: www.iaea.org



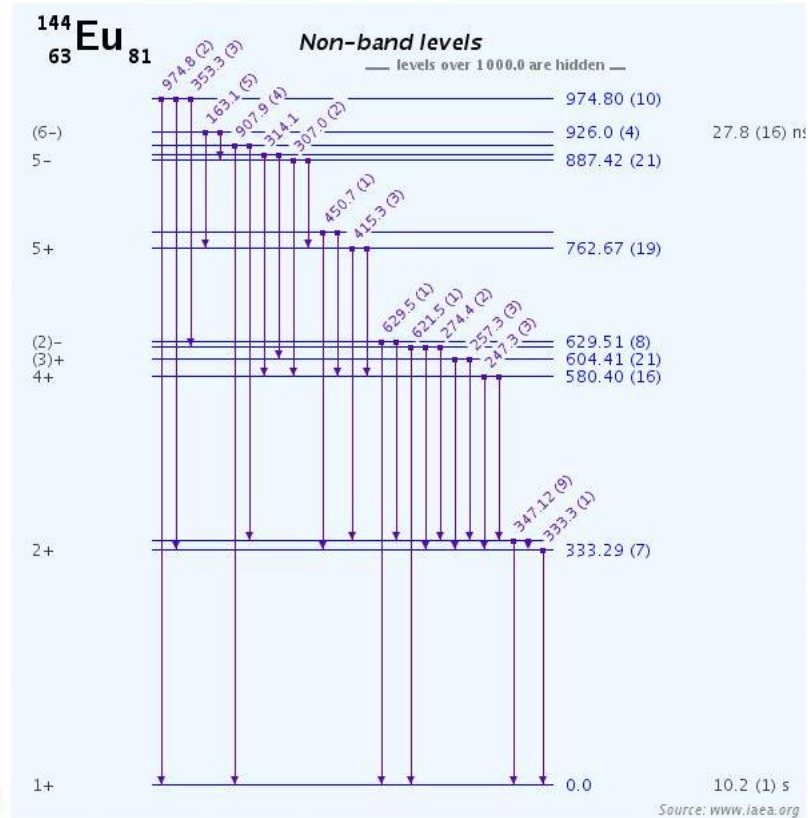
LiveChart



0.0 < Energy < 1000.0 Image height: 600 Level width: 300 Band spacing: 20 Emphasise level: 0.0 and/or gamma 0.0

Show level energy Show spin-parity Show half life Show gamma Show all (possible overlapping) Show legend

Non-band Band 1 Band 2 Band 3 Band 4

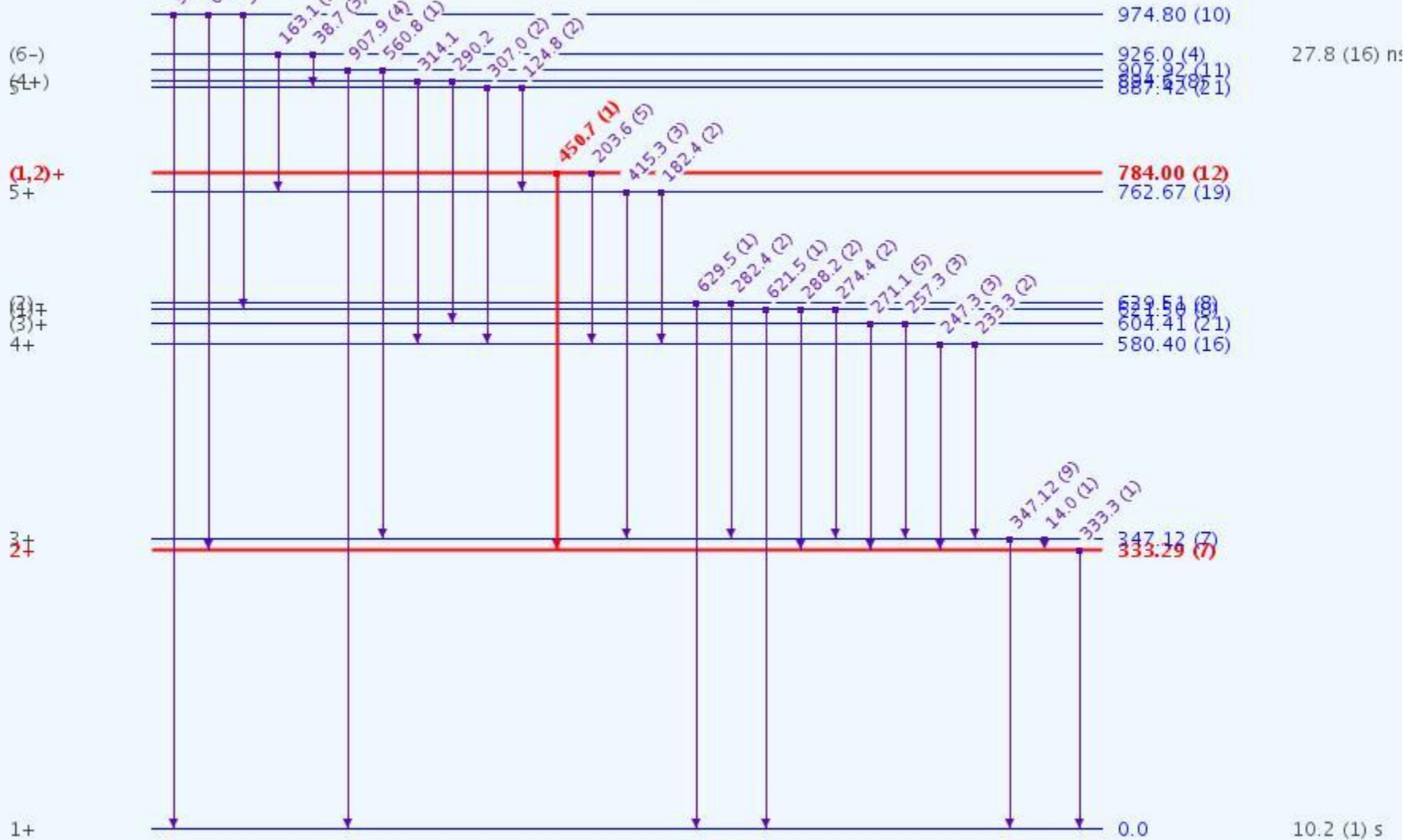


See extract from [ENSDF Datasets](#) of ¹⁴⁴Eu (snapshot October 2009).

¹⁴⁴₆₃Eu ₈₁

Other levels

— levels over 1000.0 are hidden —



27.8 (16) ns

10.2 (1) s

Source: www.iaea.org



Thank you

