Adopted Levels, Gammas

History Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh, Boris Pritychenko	ENSDF	10-May-2012

Q(β^-)=8275 *21*; S(n)=4.99×10^3 *3*; S(p)=1.660×10^4 *syst*; Q(α)=−8.8×10^3 *syst* 2012Wa38
Note: Current evaluation has used the following Q record 8275 21 *4992* 28 *16467* syst-8781 syst 2011AuZZ.
ΔS(p)=503, ΔQ(α)=597 (2011AuZZ).
Q(β^-n)=4743 *29*, S(2n)=7875 *24*, S(2p)=30854 *801* (syst) (2011AuZZ).
Values in 2003Au03 (all from syst): Q(β^-)=8200 *500*, S(n)=5060 *640*, S(p)=16420 *710*, Q(α)=−8810 *78*-, Q(β^-n)=4750 *500*, S(2n)=8030 *590*, S(2p)=30810 *950*.
1992Li24: production of ^{96}Kr in U(p,F), E=600 MeV at ISOLDE-CERN; measured rms charge radius by hyperfine structure studies.
1994Be24: identification and production of ^{96}Kr in Pb(^{238}U,F) at 750 MeV/nucleon, FRS at GSI facility.
1995Ke04 (also 1996Li25, 1992Li24, 1992Ne09): U(p,f), E=0.6 GeV, ISOLDE-CERN, measured isotope shifts, Δr^2.
1998Do08: Pb(^{238}U,X), E=750 MeV/nucleon, measured cross section.
2003Be05: U(p,f), E=1 GeV, 1.4 GeV, ISOLDE-CERN, measured n(t), β(t).
2011NiZY: ^{9}Be((^{238}U,F),E=345 MeV/nucleon, production of ^{96}Kr.
Additional information 1.
Mass measurement: 2010Na13: Penning-trap system.

^{96}Kr Levels

Cross Reference (XREF) Flags

A Coulomb excitation
B ^{238}U(^{136}Xe,Fγ)

E(level)	J$^\pi$	$T_{1/2}$	XREF	Comments
0.0	0$^+$	80 ms *8*	A	%β^-=100; %β^-n=3.7 *4* (2003Be05) $T_{1/2}$: from average of 80 ms *8* and 80 ms *10* measured by 2003Be05 from fits to neutron and β decay curves, respectively. %β^-n: average of 3.5 *8* and 3.8 *4* (2003Be05). The rms charge radius <r^2>$^{1/2}$=4.327 fm *16* (2008 update of 2004An14 evaluation, available on webpage: http://cdfe.sinp.msu.ru). Δr^2(^{96}Kr-^{86}Kr)=1.22 fm^2 *23* (1995Ke04).
554.1 *5*	(2$^+$)	12.4 ps *+31−23*	A	Q=+0.26 *92* (2012Al03) J$^\pi$: Coulomb excitation from 0$^+$; systematics of even-even nuclides. $T_{1/2}$: from E2 matrix element obtained from cross section measurements in projectile Coulomb excitation (2012Al03). Q: from E2 diagonal matrix element=+0.2 eb *7* (2012Al03).

γ(^{96}Kr)

E$_i$(level)	J$_i^\pi$	E$_\gamma$	E$_f$	J$_f^\pi$	Mult.	$\alpha^\dagger$	Comments
554.1	(2$^+$)	554.1 *5*	0.0	0$^+$	(E2)	0.00235	B(E2)↓=0.087 *19* B(E2)(W.u.)=33.4 *+74−67* (2012Al03) Mult.: Coulomb excitation from 0$^+$. E$_\gamma$: a 241-keV γ ray assigned in ^{238}U(^{136}Xe,Fγ) to deexcite the first 2$^+$ state in ^{96}Kr was not seen by 2012Al03. Instead 2012Al03 assign a 554-keV γ ray. From its time distribution and other details specified in 2012Al03, this γ ray is assigned to ^{96}Kr rather than

Continued on next page (footnotes at end of table)

Adopted Levels, Gammas (continued)

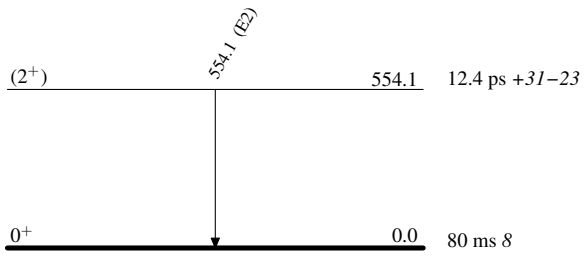
$\gamma(^{96}Kr)$ (continued)

E_i(level)	E_γ	Comments
		^{96}Rb. The origin of 241-keV γ ray seen in $^{238}U(^{136}Xe,F\gamma)$ remains unknown.

† Total theoretical internal conversion coefficients, calculated using the BrIcc code (2008Ki07) with Frozen orbital approximation based on γ-ray energies, assigned multipolarities, and mixing ratios, unless otherwise specified.

Adopted Levels, Gammas

Level Scheme



$^{96}_{36}Kr_{60}$