^{127}Ba IT decay 2002Sh01,1981Li08,1981LiZK

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	A. Hashizume	NDS 112, 1647 (2011)	1-Oct-2009

Parent: ^{127}Ba: E=80.32 *11*; $J^\pi=7/2^-$; $T_{1/2}$=1.93 s *7*; %IT decay=100.0
2002Sh01: ^{nat}Mo+^{32}S, E=160 MeV, on-line mass separation; γ, Iγ, ce, γ(t): $\gamma\gamma$ coin.
1981Li08,1981LiZK: Ce+^{3}He, E(^{3}He)=280 MeV, on-line mass separation; γ, K x ray, γ(t).

^{127}Ba Levels

E(level)†	J^π	$T_{1/2}$	Comments
0.0	$1/2^+$	12.7 min *4*	
56.17 *10*	$3/2^+$		
80.33 *12*	$7/2^-$	1.93 s *7*	$T_{1/2}$: from γ multiscaling (2002Sh01); others: 1.9 s 2 (1981Li08).

† From a least-squares fit to E_γ's.

γ(^{127}Ba)

Iγ normalization: Assuming I(γ+ce)(24.2γ)+I(γ+ce)(80.2)=100 from the isomeric state.

E_γ†	I_γ‡&	E_i(level)	J_i^π	E_f	J_f^π	Mult.@	α#	Comments
24.2 *1*	1.05 *20*	80.33	$7/2^-$	56.17	$3/2^+$	M2	995 *24*	α(L)=775 *19*; α(M)=176 *5*; α(N+..)=43.9 *11* α(N)=38.0 *9*; α(O)=5.53 *14*; α(P)=0.301 *7*
56.2 *1*	100	56.17	$3/2^+$	0.0	$1/2^+$	M1(+E2)	10 *6*	α(K)=5.0 *6*; α(L)=4 *4*; α(M)=0.9 *9*; α(N+..)=0.22 *19* α(N)=0.20 *17*; α(O)=0.025 *22*; α(P)=0.000271 *23* Mult.: intensity balance is consistent with M1.
80.2 *2*	0.61 *7*	80.33	$7/2^-$	0.0	$1/2^+$	E3	74.8 *15*	α(K)=11.75 *19*; α(L)=49.1 *10*; α(M)=11.34 *23*; α(N+..)=2.64 *6* α(N)=2.35 *5*; α(O)=0.297 *6*; α(P)=0.000471 *8* Additional information 1.

† From 1981LiZK.
‡ From 2002Sh01. Relative to I(56.2γ)=100.
# Theoretical conversion coefficients are calculated using BrIcc code for the multipolarity indicated.
@ From α(K)exp and I(K x ray) (1981Li08,1981LiZK).
& For absolute intensity per 100 decays, multiply by 0.09 *2*.

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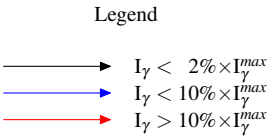
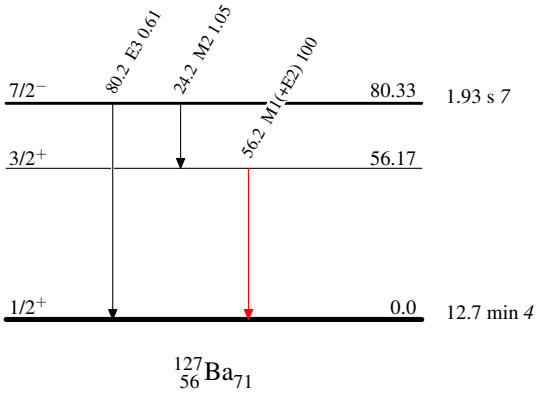
Decay Scheme

Intensities: Relative I_γ

%IT=100.0





$^{127}_{56}Ba_{71}$