^{175}W ε **decay**   **1984Sz07,1972OhZP,1969AdZY**

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	M. Shamsuzzoha Basunia	NDS 102, 719 (2004)	1-Jun-2004

Parent: ^{175}W: E=0.0; J^π=(1/2$^-$); $T_{1/2}$=35.2 min *6*; Q(ε)=2780 *40*; %ε+%β^+ decay=100.0

Several unplaced γ-rays were observed in 1969AdZY.

Partial level scheme. ε intensities not deduced.

^{175}Ta Levels

E(level)†	J^π	$T_{1/2}$	Comments
0.0‡	7/2$^+$	10.5 h *2*	$T_{1/2}$: from Adopted Levels.
36.403$^\#$ *17*	(5/2$^+$)		
51.377$^@$ *17*	(5/2$^-$)		
68.9$^@$ *13*	(1/2$^-$)		
218.1$^@$ *10*	(3/2$^-$)		
339.2$^\&$ *13*	(1/2$^+$)	0.17 μs *2*	$T_{1/2}$: from K x ray-γ(t) (1969AdZY).

† Deduced by evaluator from a least-squares fit to γ-ray energies. ΔE=1 keV was assumed for Eγ without uncertainty.

‡ 7/2(404) band.

$^\#$ 5/2(402) band.

$^@$ 1/2(541) band.

$^\&$ 1/2(411) band.

γ(^{175}Ta)

Iγ normalization: From growth and decay of ^{175}Ta contained in a source with both ^{175}W and ^{175}Ta activities (1984Sz07), and normalized to 14.0% *13* for the absolute intensity of 207γ from ^{175}Ta ε decay.

E$_\gamma^\dagger$	I$_\gamma^{\#\&}$	E$_i$(level)	J_i^π	E$_f$	J_f^π	Mult.$^@$	δ	α^a	Comments
14.97‡ *2*		51.377	(5/2$^-$)	36.403	(5/2$^+$)				
36.40‡ *2*		36.403	(5/2$^+$)	0.0	7/2$^+$	M1+E2	<0.15		Mult.,δ: from α(L)exp=14 *3* (1969AdZY).
51.38‡ *2*		51.377	(5/2$^-$)	0.0	7/2$^+$	E1+M2	0.038 *17*	0.7 *3*	α(L)= 0.56 *19*; α(M)= 0.13 *5*; α(N+..)= 0.039 *20*
									Mult.,δ: deduced by evaluators' of 1993Ma79 from α(L)exp=0.6 *2* (1969AdZY).
121.2	1.7 *5*	339.2	(1/2$^+$)	218.1	(3/2$^-$)	(E1)		0.224	α(K)= 0.184; α(L)= 0.0308; α(M)= 0.00695; α(N+..)= 0.00201
149.2	3.4 *6*	218.1	(3/2$^-$)	68.9	(1/2$^-$)	(M1+E2)		1.1 *3*	α(K)= 0.8 *4*; α(L)= 0.27 *12*; α(M)= 0.06 *3*; α(N+..)= 0.019 *6*
166.7	8.5 *15*	218.1	(3/2$^-$)	51.377	(5/2$^-$)	(M1+E2)		0.80 *24*	α(K)= 0.6 *3*; α(L)= 0.18 *8*; α(M)= 0.042 *19*; α(N+..)= 0.012 *3*
270.3	12.0 *21*	339.2	(1/2$^+$)	68.9	(1/2$^-$)	E1			

Continued on next page (footnotes at end of table)

^{175}W ε **decay**   **1984Sz07,1972OhZP,1969AdZY (continued)**

$\gamma(^{175}$Ta) (continued)

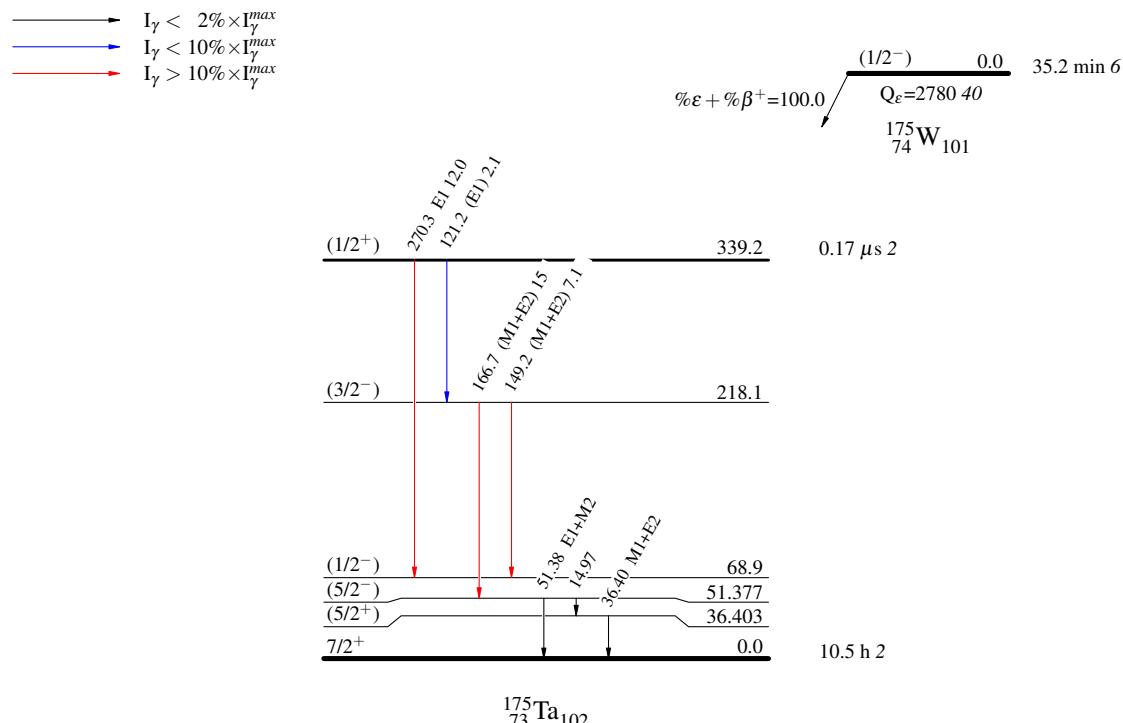† From 1984Sz07, except as noted.
‡ From 1972OhZP.
# From 1984Sz07.
@ From ce data (1969AdZY).
& For absolute intensity per 100 decays, multiply by 1.00 *9*.

a 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.

^{175}W ε decay   1984Sz07,1972OhZP,1969AdZY

Decay Scheme

Legend

Intensities: $I_{(\gamma+ce)}$ per 100 parent decays

$I_\gamma < \; 2\% \times I_\gamma^{max}$
$I_\gamma < 10\% \times I_\gamma^{max}$
$I_\gamma > 10\% \times I_\gamma^{max}$

(1/2⁻) 0.0 35.2 min *6*

%ε + %β^+=100.0 Q_ε=2780 *40*

${}^{175}_{74}$W$_{101}$

270.3 E1 12.0
121.2 (E1) 2.1

(1/2⁺) 339.2 0.17 μs *2*

166.7 (M1+E2) 15
149.2 (M1+E2) 7.1

(3/2⁻) 218.1

51.38 E1+M2
14.97
36.40 M1+E2

(1/2⁻) 68.9
(5/2⁻) 51.377
(5/2⁺) 36.403
7/2⁺ 0.0 10.5 h *2*

${}^{175}_{73}$Ta$_{102}$