^{80}Ge β^- decay (29.5 s) 1981Ho24,1972De43,1991Le09

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh	NDS 105, 223 (2005)	22-Jun-2005

Parent: ^{80}Ge: E=0; $J^\pi=0^+$; $T_{1/2}$=29.5 s *4*; Q(β^-)=2644 *19*; %β^- decay=100.0
1981Ho24 (also 1980HoZN): measured γ, $\gamma\gamma$, $T_{1/2}$(^{80}Ge).
1972De43: measured γ, $T_{1/2}$(^{80}Ge).
1991Le09: mass separated source from ^{238}U(p,F) and (d,F). Measured β, $\beta\gamma$ and yield.
Others:
Production and $T_{1/2}$ of ^{80}Ge: 1982FoZZ, 1981Gi17, 1981ZeZY, 1974KrZG, 1974Gr29, 1970OsZZ.
β^-, $\beta\gamma$ data: 1977Al17. Level scheme used by 1977Al17 was proposed by 1972MaWL.
β^- strength function (theory): 1981Al25.

^{80}As Levels

E(level)†	J^π‡
0.0	1^+
265.35 *6*	1^+
310.65 *6*	
360.82 *5*	
680.26 *5*	1^+
937.05 *6*	1^+
1873.1 *2*	1^+

† From least-squares fit to Eγ's.
‡ From log *ft* values (from 0^+).

β^- radiations

E(decay)	E(level)	Iβ^-†	Log *ft*	Comments
(771 *19*)	1873.1	0.14 *3*	5.05 *11*	av Eβ=264.6 *77*
(1707 *19*)	937.05	5.3 *10*	4.80 *9*	av Eβ=671.9 *87*
(1964 *19*)	680.26	3.6 *7*	5.22 *9*	av Eβ=789.8 *88*
2370 *70*	265.35	27 *6*	4.69 *10*	av Eβ=983.2 *90*
				E(decay): from β(265γ) (1977Al17).
(2644 *19*)	0.0	65 *7*	4.50 *5*	av Eβ=1108.3 *90*

† Absolute intensity per 100 decays.

γ(^{80}As)

Iγ normalization: from Iγ(265γ)(absolute)=27 *5* (1991Le09). Other: 0.48 *2* (1981Ho24).

E$_\gamma$†	I$_\gamma$†#	E$_i$(level)	J_i^π	E$_f$	J_f^π	Comments
x110.4‡ *4*	24 *1*					
x199.1						
265.36 *7*	100 *5*	265.35	1^+	0.0	1^+	I$_\gamma$: %Iγ=27 *5* (1991Le09). Others: 48 *2* (1981Ho24), 25 *10* (1972De43).
310.72 *7*	4.7 *3*	310.65		0.0	1^+	
319.45 *8*	1.67 *16*	680.26	1^+	360.82		
360.87 *7*	3.0 *2*	360.82		0.0	1^+	

Continued on next page (footnotes at end of table)

^{80}Ge β^- decay (29.5 s) 1981Ho24,1972De43,1991Le09 (continued)

$\gamma(^{80}As)$ (continued)

E_γ [†]	I_γ [†#]	E_i(level)	J_i^π	E_f	J_f^π	Comments
369.67 *8*	2.21 *15*	680.26	1^+	310.65		
414.92 *10*	1.27 *12*	680.26	1^+	265.35	1^+	
576.27 *8*	1.36 *10*	937.05	1^+	360.82		
626.45 *13*	3.1 *4*	937.05	1^+	310.65		
680.16 *8*	8.2 *5*	680.26	1^+	0.0	1^+	
[x]782.3[‡] *4*	3 *1*					E_γ: unresolved doublet; second component is from ^{80}As β^- decay.
936.97 *8*	15.0 *9*	937.05	1^+	0.0	1^+	
[x]1014.0[‡] *4*	10 *2*					
[x]1116.0[‡] *4*	10.5 *14*					
[x]1136.0						
[x]1256.1[‡] *4*	12.5 *16*					
[x]1305.5						
[x]1564.3[‡] *4*	18.0 *17*					
1873.1 *2*	0.52 *4*	1873.1	1^+	0.0	1^+	

† From 1981Ho24, unless otherwise stated.
‡ Reported by 1972De43 only, treated as uncertain (evaluator).
# For absolute intensity per 100 decays, multiply by 0.27 *5*.
x γ ray not placed in level scheme.

^{80}Ge β^- decay (29.5 s) 1981Ho24,1972De43,1991Le09

Decay Scheme

Intensities: I_γ per 100 parent decays