

Adopted Levels, Gammas

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	E. Browne, J. K. Tuli		NDS 108,2173 (2007)	1-Oct-2006

$Q(\beta^-) = -8.9 \times 10^3$ syst; $S(n) = 1.19 \times 10^4$ syst; $S(p) = 6.0 \times 10^2$ syst; $Q(\alpha) = 2.86 \times 10^3$ syst [2012Wa38](#)

Note: Current evaluation has used the following Q record -8800 SY11830 SY490 SY2970 syst [2003Au03](#).

$\Delta Q(\beta^-) = 450, \Delta S(n) = 280, \Delta S(p) = 200, \Delta Q(\alpha) = 200$ (syst, [2003Au03](#)).

[Additional information 1.](#)

 ^{137}Eu LevelsCross Reference (XREF) Flags

- A** $^{74}\text{Se}(^{66}\text{Zn}, p2n\gamma)$ E=290 MeV
B $^{54}\text{Fe}(^{92}\text{Mo}, 2\alpha p\gamma)$ E=260 MeV

E(level)	$J^\pi^\dagger$	$T_{1/2}$	XREF	Comments
0.0 [‡]	(11/2 ⁻)	11 s 2	AB	$\% \varepsilon + \% \beta^+ = 100$ $T_{1/2}$: from 1982No15 (observed K x ray); 1983AlZO reported the following γ rays: 421, 484, 531 with $T_{1/2} = 9$ s. 1986Re11 , however, did not observe these γ rays. Other value: $T_{1/2} = 8.4$ s 5, from the decay rate of 209.5- and 433-keV γ rays (2001BeZY). J^π : from similarity with ^{139}Eu (1987Go35).
273.2 [‡] 3	(15/2 ⁻)		AB	
741.6 [‡] 5	(19/2 ⁻)		AB	
1354 [‡]	(23/2 ⁻)		A	
2076 [‡]	(27/2 ⁻)		A	
2876 [‡]	(31/2 ⁻)		A	
3733 [‡]	(35/2 ⁻)		A	
4645 [‡]	(39/2 ⁻)		A	

[†] From band structure and syst.

[‡] Band(A): aligned band.

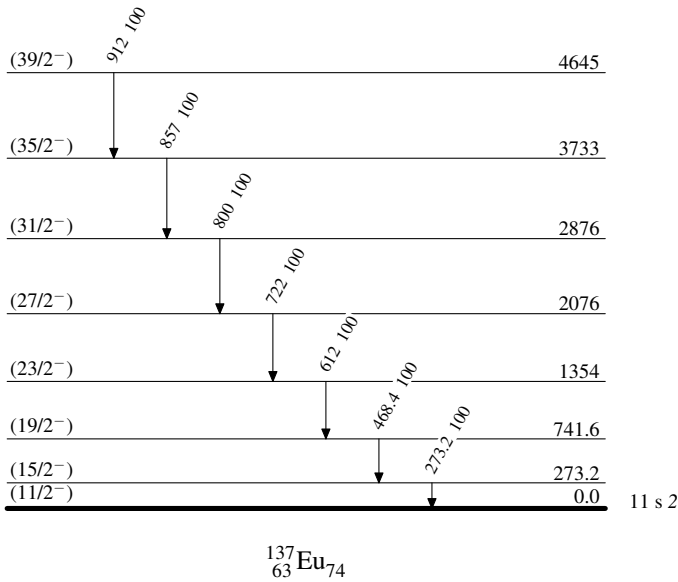
 $\gamma(^{137}\text{Eu})$

$E_i(\text{level})$	J_i^π	E_γ	I_γ	E_f	J_f^π
273.2	(15/2 ⁻)	273.2 3	100	0.0	(11/2 ⁻)
741.6	(19/2 ⁻)	468.4 4	100	273.2	(15/2 ⁻)
1354	(23/2 ⁻)	612	100	741.6	(19/2 ⁻)
2076	(27/2 ⁻)	722	100	1354	(23/2 ⁻)
2876	(31/2 ⁻)	800	100	2076	(27/2 ⁻)
3733	(35/2 ⁻)	857	100	2876	(31/2 ⁻)
4645	(39/2 ⁻)	912	100	3733	(35/2 ⁻)

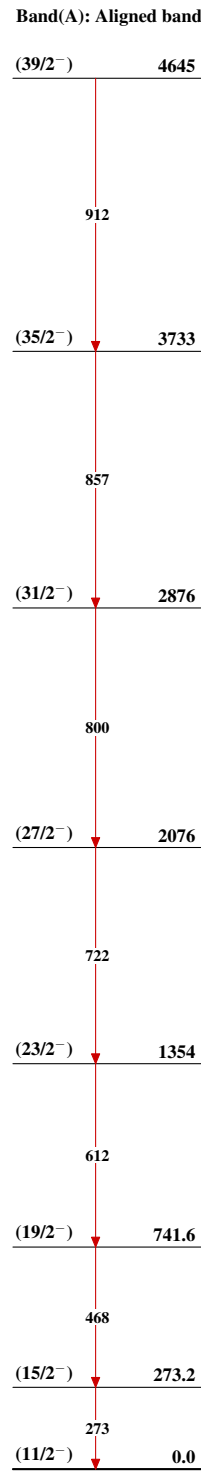
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Level Scheme

Intensities: Relative photon branching from each level



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$^{137}_{63}\text{Eu}_{74}$