

^{252}Cf SF decay 2011Hw03

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	J. K. Tuli, E. Browne		NDS 157, 260 (2019)	1-Mar-2019

Parent: ^{252}Cf : $E=0.0$; $J^\pi=0^+$; $T_{1/2}=2.645$ y 8; %SF decay=?

Based on 2011Hw03 in XUNDL, compiled by B. Singh (McMaster): Aug 9, 2011.

Measured E_γ , I_γ , $\gamma\gamma$ coin, $\gamma\gamma$ (Dy X rays) coin using Gammasphere array with 101 Ge detectors, following the spontaneous fission of ^{252}Cf . Other: 2012RAZX, same work as 2011Hw03.

 ^{82}Ge Levels

$E(\text{level})^\dagger$	J^π^\ddagger	$E(\text{level})^\dagger$	J^π^\ddagger	$E(\text{level})^\dagger$	J^π^\ddagger	$E(\text{level})^\dagger$	J^π^\ddagger
0.0 [#]	0 ⁺	2524.7 [@] 4	(2 ⁺)	2957.6 7		3397.2 [@] 9	(6 ⁺)
1348.5 [#] 4	2 ⁺	2661.0 7		3055.5 ^{&} 7	(0 ⁺)	3627.0 ^{&} 9	(4 ⁺)
2287.0 [#] 7	4 ⁺	2884.6 [@] 7	(4 ⁺)	3227.5 [#] 9	(6 ⁺)	3689.2 10	
2333.3 [@] 5	0 ⁺	2933.0 9		3257.4 ^{&} 7	(2 ⁺)		

[†] From least-squares fit to E_γ data assuming an uncertainty of 0.5 keV for each γ ray.

[‡] Two deformed rotational bands have been assigned, indicating coexistence of the spherical ground state and deformed excited states in ^{82}Ge . Possible 2p-2h excitations with 0⁺ pairing energy of $\nu 9/2[404]^{-2} \otimes \nu 1/2[431]^2$ configuration across N=50 shell.

[#] Band(A): g.s. band.

[@] Band(B): Band based on first excited 0⁺.

[&] Band(C): Band based on second excited (0⁺).

 $\gamma(^{82}\text{Ge})$

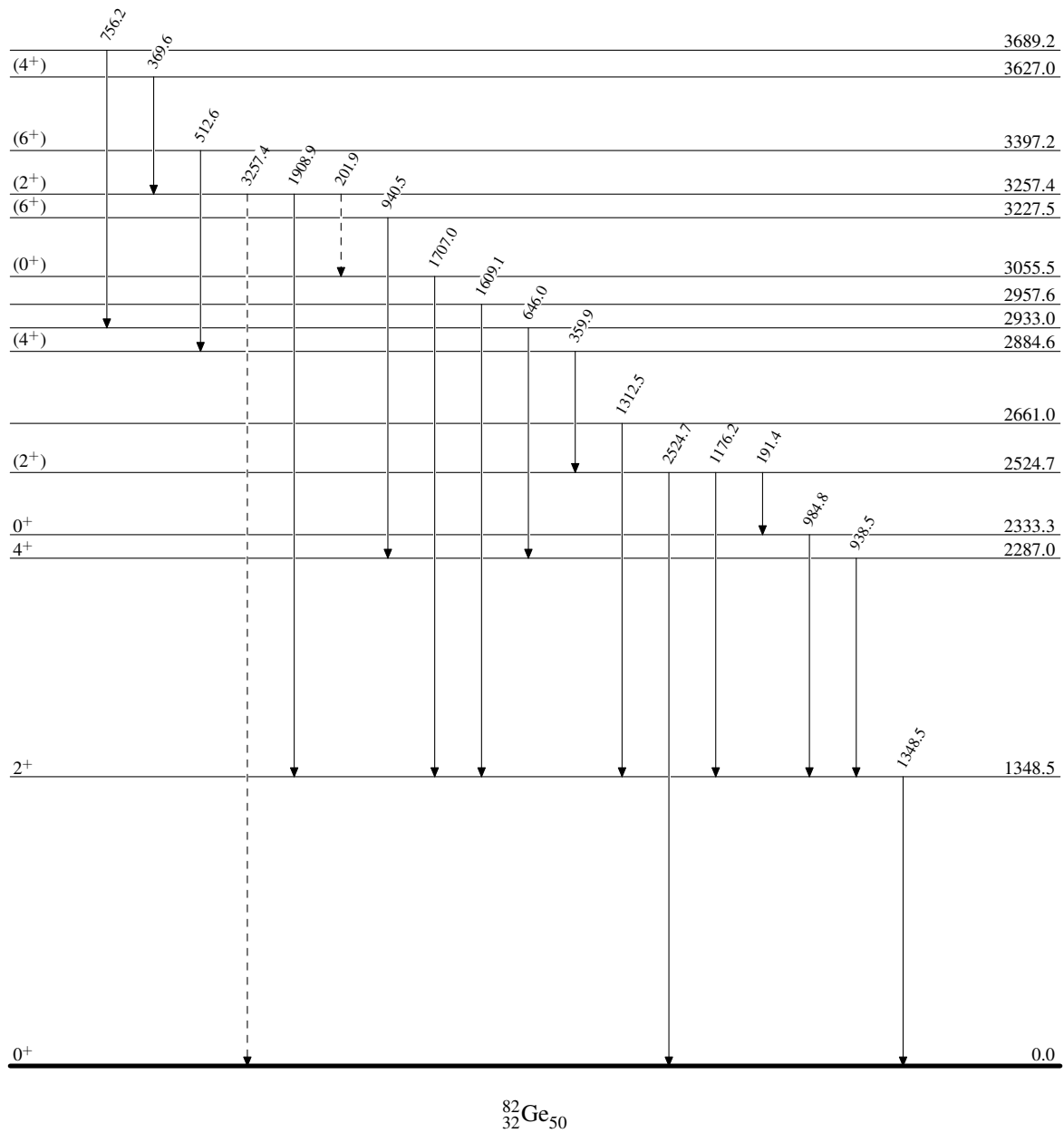
E_γ	$E_i(\text{level})$	J_i^π	E_f	J_f^π	E_γ	$E_i(\text{level})$	J_i^π	E_f	J_f^π
191.4	2524.7	(2 ⁺)	2333.3	0 ⁺	984.8	2333.3	0 ⁺	1348.5	2 ⁺
201.9 [†]	3257.4	(2 ⁺)	3055.5	(0 ⁺)	1176.2	2524.7	(2 ⁺)	1348.5	2 ⁺
359.9	2884.6	(4 ⁺)	2524.7	(2 ⁺)	1312.5	2661.0		1348.5	2 ⁺
369.6	3627.0	(4 ⁺)	3257.4	(2 ⁺)	1348.5	1348.5	2 ⁺	0.0	0 ⁺
512.6	3397.2	(6 ⁺)	2884.6	(4 ⁺)	1609.1	2957.6		1348.5	2 ⁺
646.0	2933.0		2287.0	4 ⁺	1707.0	3055.5	(0 ⁺)	1348.5	2 ⁺
756.2	3689.2		2933.0		1908.9	3257.4	(2 ⁺)	1348.5	2 ⁺
938.5	2287.0	4 ⁺	1348.5	2 ⁺	2524.7	2524.7	(2 ⁺)	0.0	0 ⁺
940.5	3227.5	(6 ⁺)	2287.0	4 ⁺	3257.4 [†]	3257.4	(2 ⁺)	0.0	0 ⁺

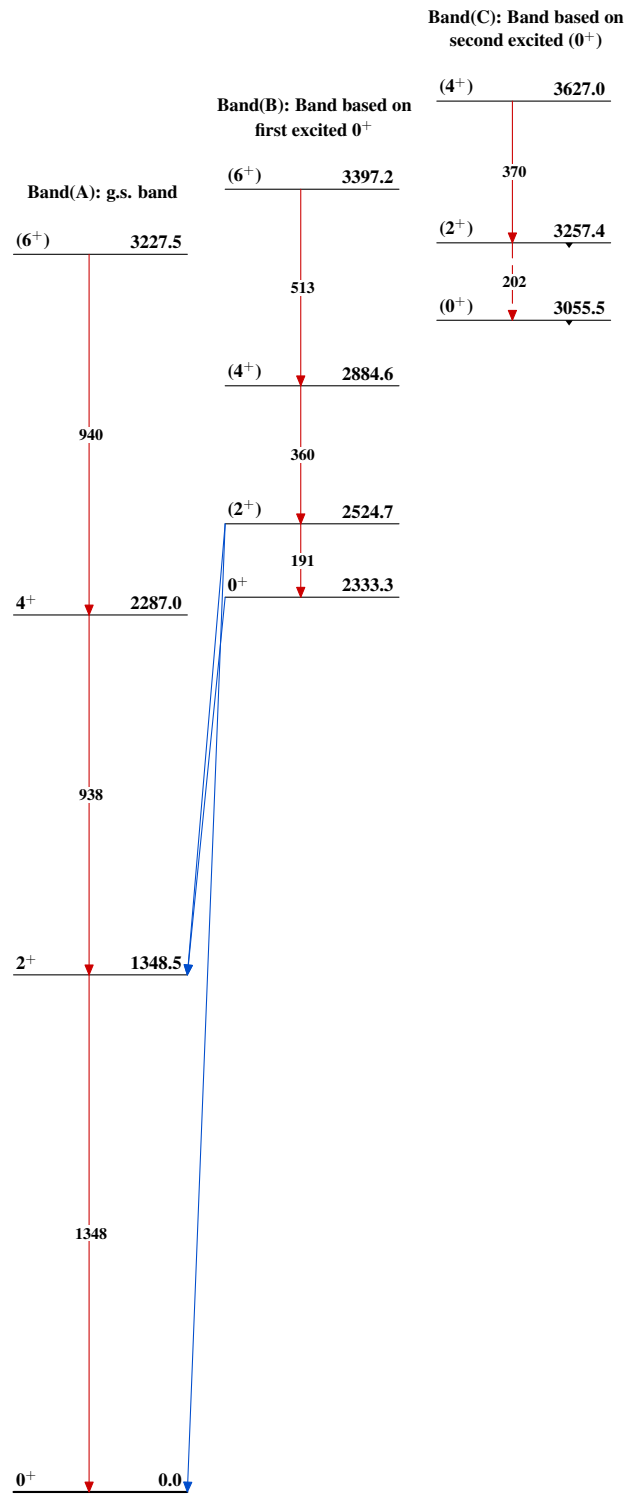
[†] Placement of transition in the level scheme is uncertain.

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Legend

Level Scheme

-----► γ Decay (Uncertain)

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