

^{248}Cm SF decay [1995Gu14,1995Gu18](#)

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	D. De Frenne and A. Negret		NDS 109, 943 (2008)	1-May-2007

Parent: ^{248}Cm : $E=0.0$; $J^\pi=0^+$; $T_{1/2}=3.48 \times 10^5$ y 6; %SF decay=?

^{248}Cm -%SF decay=8.39 16.

Measured E_γ , I_γ , $\gamma\gamma$ using Eurogam2 array consisting of 52 escape suppressed spectrometers (total of 124 Ge detectors) and 4 LEPS Ge detectors.

^{106}Mo Levels

<u>E(level)[†]</u>	<u>J^π[‡]</u>	<u>E(level)[†]</u>	<u>J^π[‡]</u>	<u>E(level)[†]</u>	<u>J^π[‡]</u>	<u>E(level)[†]</u>	<u>J^π[‡]</u>
0 ^{&}	0 ⁺	1434.6 ^b 3	4 ^{+#}	2014.4 4	(6 ⁺)	2566.0 4	(8 ⁺) [@]
171.51 ^{&} 23	2 ⁺	1563.2 ^a 3	6 ⁺	2142.0 ^d 4	(6 ⁻)	2628.6 ^d 4	(8 ⁻)
522.2 ^{&} 3	4 ⁺	1657.5 ^b 3	5 ⁺	2194.0 ^a 4	8 ⁺	2746.5 ^c 4	(8 ⁻)
710.40 ^a 23	2 ⁺	1688.2 ^{&} 4	8 ⁺	2199.4 ^b 4	7 ⁺	2920.9 ^d 4	(9 ⁻)
885.1 ^a 3	3 ⁺	1867.7 ^a 4	7 ⁺	2276.2 ^c 3	(6 ⁻)	3237.6 ^d 4	(10 ⁻)
1033.2 ^{&} 3	6 ⁺	1910.1 ^b 3	6 ⁺	2368.4 ^d 4	(7 ⁻)		
1067.6 ^a 3	4 ⁺	1936.8 ^c 3	(4 ⁻)	2471.8 ^{&} 5	10 ⁺		
1306.7 ^a 3	5 ⁺	1951.8 ^d 4	(5 ⁻)	2498.7 ^c 4	(7 ⁻)		

[†] From least-squares fit to E_γ 's, assuming $\Delta(E_\gamma)=0.3$ keV for each γ ray (by evaluators).

[‡] From Adopted Levels.

For a detailed discussion on the structure of this state see [1995Gu14](#).

@ (10⁺) in [1995Gu18](#).

& Band(A): g.s., Yrast Band.

^a Band(B): γ band.

^b Band(C): Double phonon ($\gamma\gamma$), $K^\pi=4^+$ (vibrational) band.

^c Band(D): Band #1.

^d Band(E): Band #2.

$\gamma(^{106}\text{Mo})$

All data are from [1995Gu14](#), unless otherwise stated. DCO ratios given if available but no ranges given for D, Q or D+Q transitions.

<u>E_γ</u>	<u>$E_i(\text{level})$</u>	<u>J_i^π</u>	<u>E_f</u>	<u>J_f^π</u>
171.5	171.51	2 ⁺	0	0 ⁺
174.6	885.1	3 ⁺	710.40	2 ⁺
190.2	2142.0	(6 ⁻)	1951.8	(5 ⁻)
222.5	2498.7	(7 ⁻)	2276.2	(6 ⁻)
222.9	1657.5	5 ⁺	1434.6	4 ⁺
226.3	2368.4	(7 ⁻)	2142.0	(6 ⁻)
239.2	1306.7	5 ⁺	1067.6	4 ⁺
252.3	1910.1	6 ⁺	1657.5	5 ⁺
260.1	2628.6	(8 ⁻)	2368.4	(7 ⁻)
273.6 [†]	1306.7	5 ⁺	1033.2	6 ⁺
289.2	2199.4	7 ⁺	1910.1	6 ⁺
292.2	2920.9	(9 ⁻)	2628.6	(8 ⁻)
316.7	3237.6	(10 ⁻)	2920.9	(9 ⁻)

Continued on next page (footnotes at end of table)

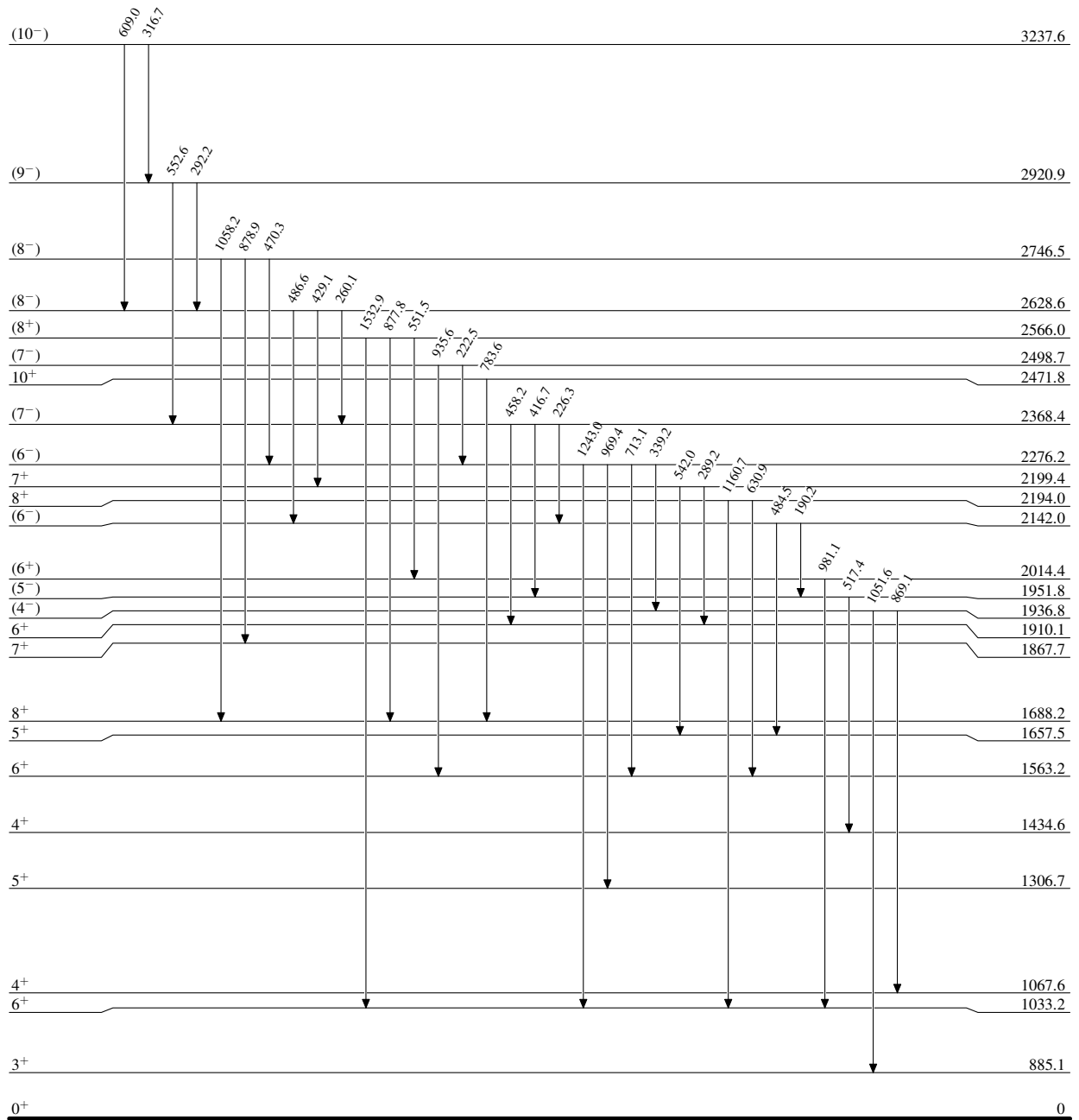
^{248}Cm SF decay [1995Gu14](#),[1995Gu18](#) (continued) $\gamma(^{106}\text{Mo})$ (continued)

E_γ	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Comments
339.2	2276.2	(6 ⁻)	1936.8	(4 ⁻)	
350.4	1657.5	5 ⁺	1306.7	5 ⁺	
350.8	522.2	4 ⁺	171.51	2 ⁺	
357.2	1067.6	4 ⁺	710.40	2 ⁺	(357 γ)(539 γ)(172 γ)(θ): DCO=0.92 4.
362.7 [†]	885.1	3 ⁺	522.2	4 ⁺	
367.0	1434.6	4 ⁺	1067.6	4 ⁺	
416.7	2368.4	(7 ⁻)	1951.8	(5 ⁻)	
421.3	1306.7	5 ⁺	885.1	3 ⁺	(421 γ)(713 γ)(172 γ)(θ): DCO=0.99 5.
429.1	2628.6	(8 ⁻)	2199.4	7 ⁺	
458.2	2368.4	(7 ⁻)	1910.1	6 ⁺	
470.3	2746.5	(8 ⁻)	2276.2	(6 ⁻)	
475.6	1910.1	6 ⁺	1434.6	4 ⁺	
484.5	2142.0	(6 ⁻)	1657.5	5 ⁺	
486.6	2628.6	(8 ⁻)	2142.0	(6 ⁻)	
495.7	1563.2	6 ⁺	1067.6	4 ⁺	
511.0	1033.2	6 ⁺	522.2	4 ⁺	
517.4	1951.8	(5 ⁻)	1434.6	4 ⁺	
529.9	1563.2	6 ⁺	1033.2	6 ⁺	
538.9	710.40	2 ⁺	171.51	2 ⁺	
542.0	2199.4	7 ⁺	1657.5	5 ⁺	
545.5	1067.6	4 ⁺	522.2	4 ⁺	
549.6	1434.6	4 ⁺	885.1	3 ⁺	
551.5	2566.0	(8 ⁺)	2014.4	(6 ⁺)	
552.6	2920.9	(9 ⁻)	2368.4	(7 ⁻)	
561.0	1867.7	7 ⁺	1306.7	5 ⁺	
589.9	1657.5	5 ⁺	1067.6	4 ⁺	
603.5	1910.1	6 ⁺	1306.7	5 ⁺	
609.0	3237.6	(10 ⁻)	2628.6	(8 ⁻)	
630.9	2194.0	8 ⁺	1563.2	6 ⁺	
654.9	1688.2	8 ⁺	1033.2	6 ⁺	
710.4	710.40	2 ⁺	0	0 ⁺	
713.1	2276.2	(6 ⁻)	1563.2	6 ⁺	
713.4	885.1	3 ⁺	171.51	2 ⁺	
724.3	1434.6	4 ⁺	710.40	2 ⁺	(724 γ)(539 γ)(172 γ)(θ): DCO=0.86 6.
772.3	1657.5	5 ⁺	885.1	3 ⁺	(772 γ)(713 γ)(172 γ)(θ): DCO=0.90 5.
783.6	2471.8	10 ⁺	1688.2	8 ⁺	
784.4	1306.7	5 ⁺	522.2	4 ⁺	
834.6	1867.7	7 ⁺	1033.2	6 ⁺	
842.5	1910.1	6 ⁺	1067.6	4 ⁺	
869.1	1936.8	(4 ⁻)	1067.6	4 ⁺	
877.8	2566.0	(8 ⁺)	1688.2	8 ⁺	
878.9	2746.5	(8 ⁻)	1867.7	7 ⁺	
896.1	1067.6	4 ⁺	171.51	2 ⁺	
912.3 [†]	1434.6	4 ⁺	522.2	4 ⁺	
935.6	2498.7	(7 ⁻)	1563.2	6 ⁺	
969.4	2276.2	(6 ⁻)	1306.7	5 ⁺	
981.1	2014.4	(6 ⁺)	1033.2	6 ⁺	
1041.3	1563.2	6 ⁺	522.2	4 ⁺	
1051.6	1936.8	(4 ⁻)	885.1	3 ⁺	
1058.2	2746.5	(8 ⁻)	1688.2	8 ⁺	
1160.7	2194.0	8 ⁺	1033.2	6 ⁺	
1243.0	2276.2	(6 ⁻)	1033.2	6 ⁺	
1532.9	2566.0	(8 ⁺)	1033.2	6 ⁺	

[†] From [1995Gu18](#).

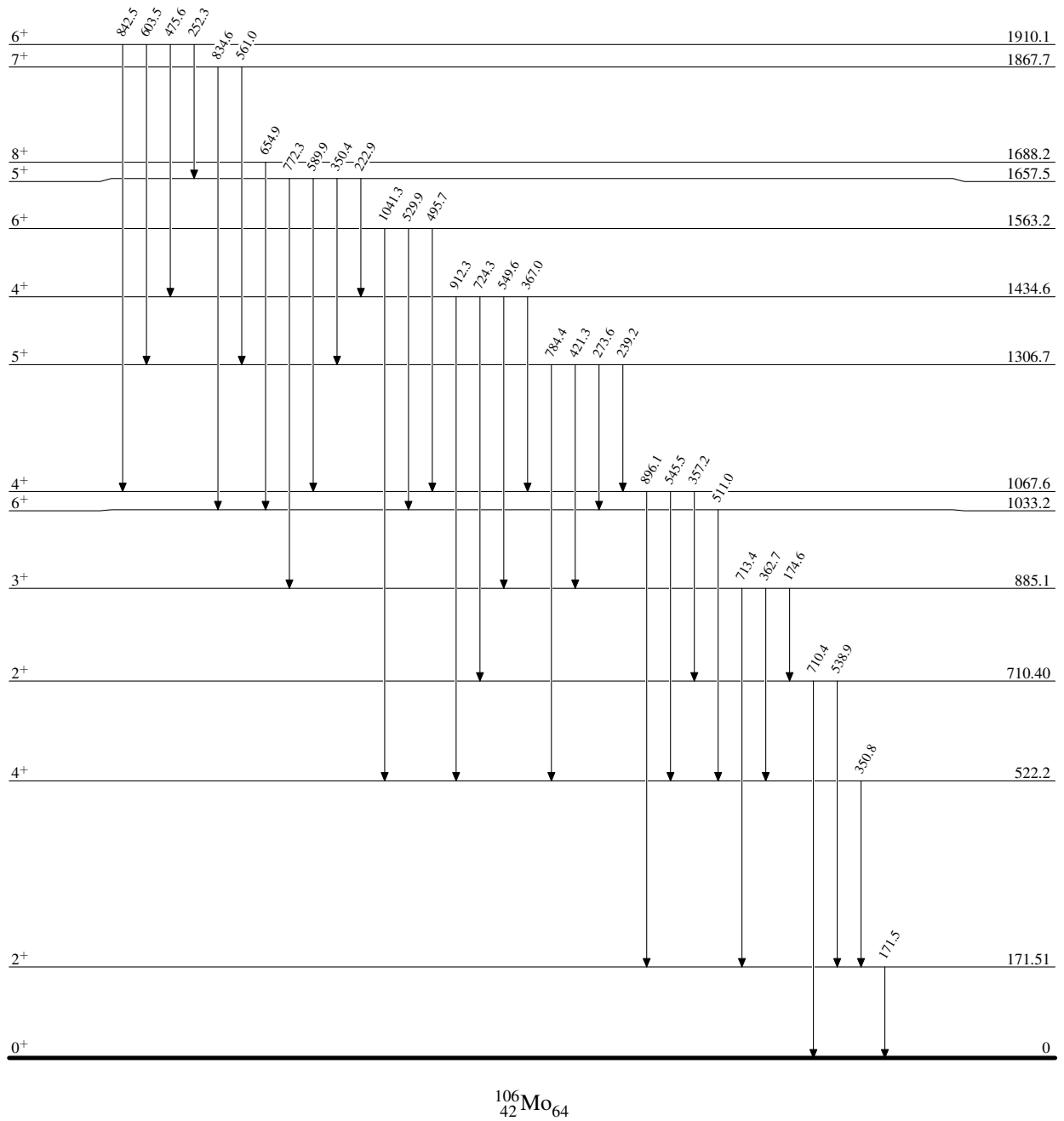
^{248}Cm SF decay 1995Gu14,1995Gu18

Level Scheme

 $^{106}_{42}\text{Mo}_{64}$

^{248}Cm SF decay 1995Gu14,1995Gu18

Level Scheme (continued)

 $^{106}_{42}\text{Mo}_{64}$

^{248}Cm SF decay 1995Gu14,1995Gu18