

^{248}Cm SF decay [1991Ho16](#)

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	D. De Frenne	NDS 110, 2081 (2009)	1-Mar-2009

Parent: ^{248}Cm : $E=0.0$; $J^\pi=0^+$; $T_{1/2}=3.48\times 10^5$ y 6; %SF decay=8.39 16

^{248}Cm chemically purified.

The ^{248}Cm source was placed at the normal target position of the Argonne-Notre Dame BGO γ Ray Facility. 10 BGO-suppressed Ge detectors, 2 LEPS, an array 50 BGO detectors. 500 million coin events recorded.

The authors use the fission properties of the fragments (complementary) and the coin with previously established transitions to identify the nuclides.

 ^{103}Nb Levels

E(level)	J^π †	E(level)	J^π †	E(level)	J^π †
0.0‡	(5/2 ⁺)	314.6#	(7/2 ⁻)	729.9#	(11/2 ⁺)
126.4‡	(7/2 ⁺)	502.4#	(9/2 ⁻)	988.3#	(13/2 ⁻)
164.0#	(5/2 ⁻)	504.0‡	(11/2 ⁺)	1022.9‡	(15/2 ⁺)
285.3‡	(9/2 ⁺)	721.2‡	(13/2 ⁺)	1285.9‡	(17/2 ⁺)
				1287.3#	(15/2 ⁻)

† From Adopted Levels.

‡ Band(A): Possible 5/2[422] band member. configuration supported by the measured in-band branching ratios.

Band(B): Possible 5/2[303] band member. configuration supported by the measured in-band branching ratios.

 $\gamma(^{103}\text{Nb})$

E_γ †	I_γ	$E_i(\text{level})$	J_i^π	E_f	J_f^π	E_γ †	I_γ	$E_i(\text{level})$	J_i^π	E_f	J_f^π
126.4		126.4	(7/2 ⁺)	0.0	(5/2 ⁺)	301.7	22	1022.9	(15/2 ⁺)	721.2	(13/2 ⁺)
150.6	32	314.6	(7/2 ⁻)	164.0	(5/2 ⁻)	314.6	11	314.6	(7/2 ⁻)	0.0	(5/2 ⁺)
158.9	100	285.3	(9/2 ⁺)	126.4	(7/2 ⁺)	338.4	21	502.4	(9/2 ⁻)	164.0	(5/2 ⁻)
164.0	32	164.0	(5/2 ⁻)	0.0	(5/2 ⁺)	377.6	6	504.0	(11/2 ⁺)	126.4	(7/2 ⁺)
187.8	7	502.4	(9/2 ⁻)	314.6	(7/2 ⁻)	415.3	15	729.9	(11/2 ⁺)	314.6	(7/2 ⁻)
217.2	35	721.2	(13/2 ⁺)	504.0	(11/2 ⁺)	435.9	6	721.2	(13/2 ⁺)	285.3	(9/2 ⁺)
218.7	67	504.0	(11/2 ⁺)	285.3	(9/2 ⁺)	485.9	14	988.3	(13/2 ⁻)	502.4	(9/2 ⁻)
227.5	2	729.9	(11/2 ⁺)	502.4	(9/2 ⁻)	518.9	6	1022.9	(15/2 ⁺)	504.0	(11/2 ⁺)
263.0	9	1285.9	(17/2 ⁺)	1022.9	(15/2 ⁺)	557.4	8	1287.3	(15/2 ⁻)	729.9	(11/2 ⁺)
285.3	10	285.3	(9/2 ⁺)	0.0	(5/2 ⁺)	564.7	6	1285.9	(17/2 ⁺)	721.2	(13/2 ⁺)

† Not given by [1991Ho16](#), derived by evaluator from level energy differences.

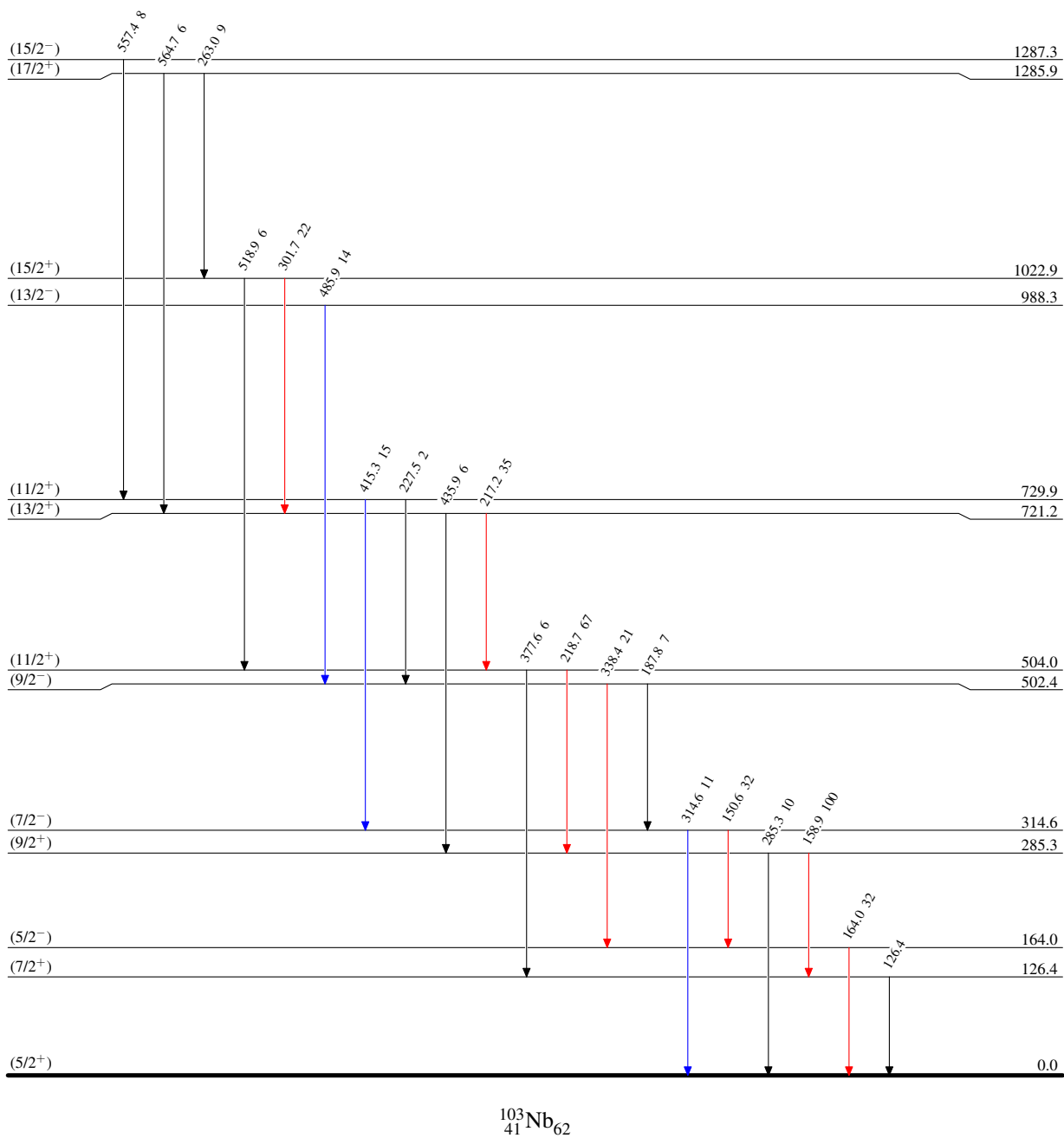
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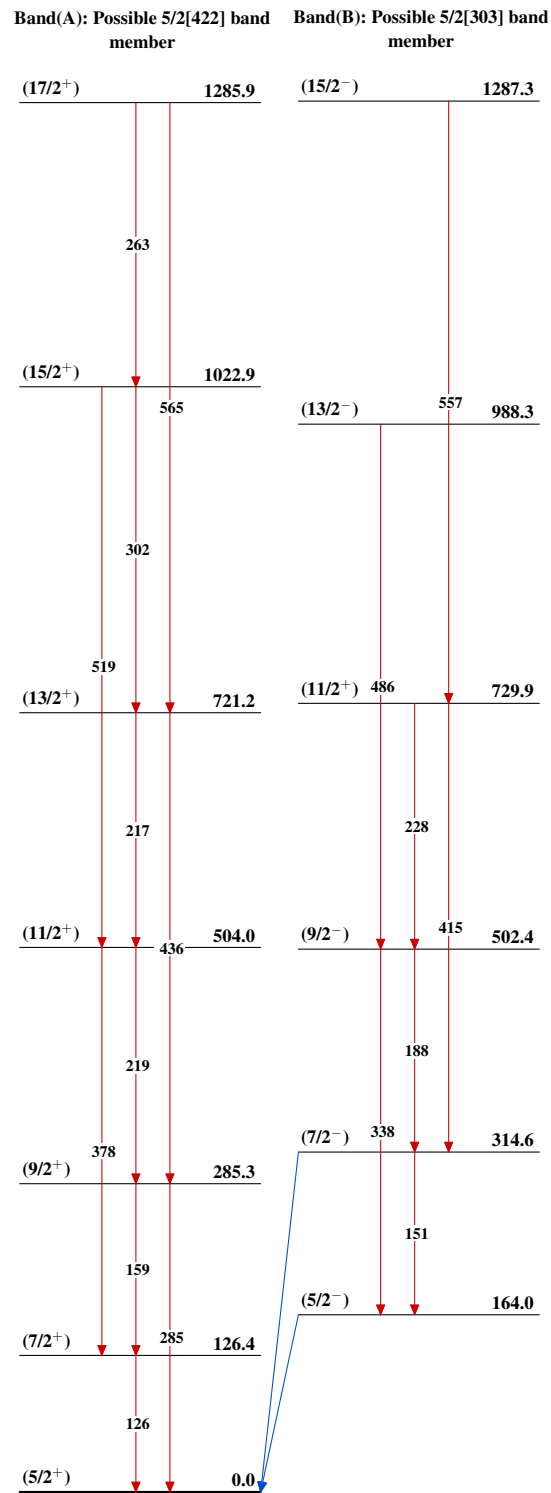
Level Scheme

Intensities: Relative I_γ

Legend

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



^{248}Cm SF decay $^{1991}\text{Ho16}$  $^{103}_{41}\text{Nb}_{62}$