

²⁴⁸Cm SF decay 2005Ur01

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	Jean Blachot	NDS 110, 1239 (2009)	1-Feb-2008

Parent: ²⁴⁸Cm: E=0; J^π=0⁺; T_{1/2}=3.48×10⁵ y 6; %SF decay=?

Measured E_γ, I_γ, γγ, γγ(θ) using EUROGAM2 array of Ge detectors.

¹¹¹Tc Levels

E(level) [†]	J ^π [‡]	Comments
0.0 [#]	5/2 ⁺	E(level): it is assumed that the lowest level populated in this study is the g.s., 2005Ur01 rule out 7/2 or 9/2, but 5/2 ⁻ g.s. is possible from systematics and model predictions.
67.0 [#] 3	7/2 ⁺	
198.5 [#] 4	9/2 ⁺	
482.6 [#] 4	11/2 ⁺	
574.3 5	(11/2 ⁺)	
609.1 [#] 5	13/2 ⁺	
886.5 6		
1161.2 [#] 6	17/2 ⁺	
1829.6 [#] 6	(21/2 ⁺)	
2553.0 [#] 7	(25/2 ⁺)	

[†] From least-squares fit to E_γ's, assuming Δ(E_γ)=0.3 keV for each γ ray.

[‡] As proposed by 2005Ur01 based on 5/2[422] band assignment, systematics and model predictions. The assignments are the same in 'Adopted Levels', except that parentheses have been added due to lack of strong arguments.

[#] Band(A): π5/2[422].

γ(¹¹¹Tc)

E _γ	I _γ	E _i (level)	J _i ^π	E _f	J _f ^π	Mult.	Comments
67.0	30 8	67.0	7/2 ⁺	0.0	5/2 ⁺	M1+E2	(131.6γ)(67.0γ)(θ): A ₂ =+0.04 3, A ₄ =-0.03 3. Mult.: α(K)exp=1.9 5 from γ and K-x ray intensities.
126.5	32 5	609.1	13/2 ⁺	482.6	11/2 ⁺		
131.6	100 5	198.5	9/2 ⁺	67.0	7/2 ⁺	D	Mult.: ΔJ=1 from (410.6γ)(131.6γ)(θ): A ₂ =-0.06 2, A ₄ =+0.04 3.
284.1	40 5	482.6	11/2 ⁺	198.5	9/2 ⁺		
312.2	20 5	886.5		574.3	(11/2 ⁺)		
375.8	20 5	574.3	(11/2 ⁺)	198.5	9/2 ⁺		
410.6	70 8	609.1	13/2 ⁺	198.5	9/2 ⁺		
415.5	15 5	482.6	11/2 ⁺	67.0	7/2 ⁺		
552.1	40 5	1161.2	17/2 ⁺	609.1	13/2 ⁺	(Q)	(552.1γ)(410.6γ)(θ): A ₂ =+0.09 3; A ₄ =-0.01 3. Mult.: E2 listed by 2005Ur01.
668.4	27 5	1829.6	(21/2 ⁺)	1161.2	17/2 ⁺		
723.4	20 5	2553.0	(25/2 ⁺)	1829.6	(21/2 ⁺)		

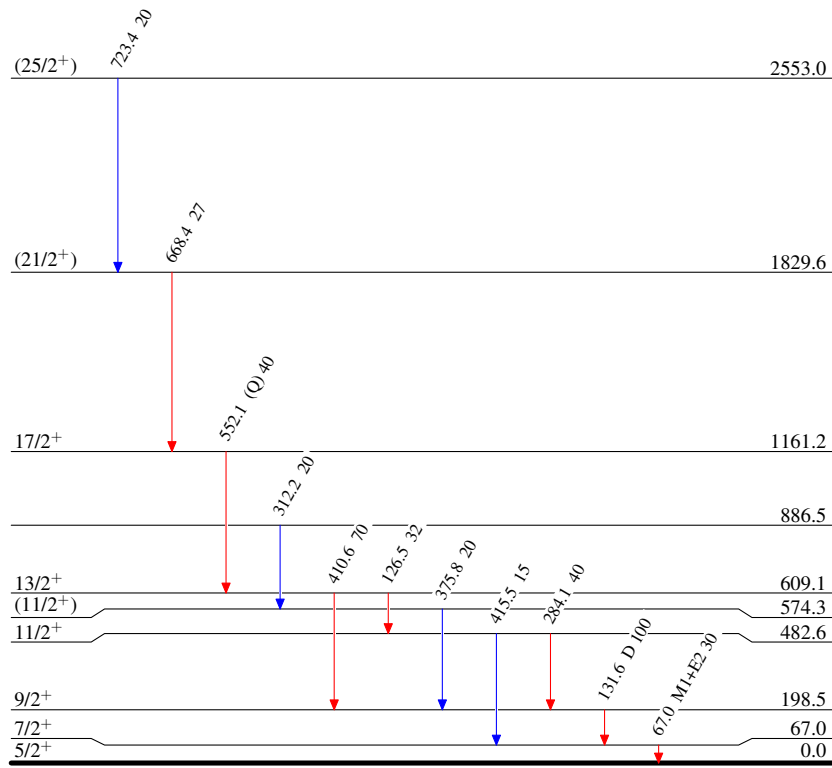
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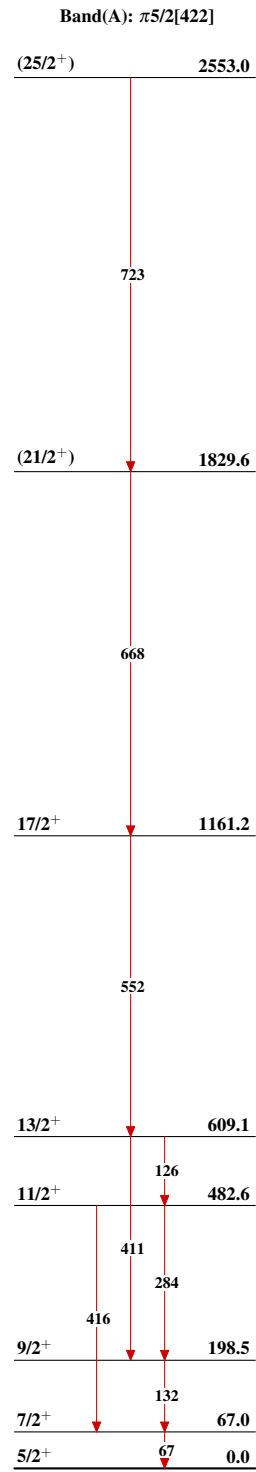
Level Scheme

Intensities: Relative I_γ

Legend

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

 $^{111}_{43}\text{Tc}_{68}$

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