

$^{144}\text{Sm}(^{35}\text{Cl},\text{p}2\text{n}\gamma)$ 1990Ce05,1986Dr05

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	M. S. Basunia	NDS 107, 791 (2006)	15-Sep-2005

1990Ce05: E=175-185 MeV. Measured E_γ , $\gamma\gamma$ coin, $\gamma\gamma(\theta)$. Detectors: 30 Compton-suppressed germanium detectors.

1986Dr05: E=173 MeV. Measured E_γ , $\gamma\gamma$ coin, $\gamma(\theta)$, level $T_{1/2}$ (RDM). Detectors: Ge(Li), Compton-suppressed Ge(Li).

 ^{176}Pt Levels

E(level) [‡]	J ^π #	T _{1/2} [†]	Comments
0.0@	0 ⁺	6.33 s 15	T _{1/2} : From Adopted Levels.
264.0@ 3	2 ⁺	75.6 ps 69	
564.1@ 5	4 ⁺	22.2 ps 20	
905.6@ 6	6 ⁺	11.2 ps 10	
1305.7@ 6	8 ⁺	4.7 ps 6	
1699.4& 8	5 ⁽⁻⁾		
1736.4 ^a 9	4 ⁽⁻⁾		
1764.8@ 7	10 ⁺		
2004.4 ^a 9	6 ⁽⁻⁾		
2010.9& 8	7 ⁽⁻⁾		
2277.0@ 7	12 ⁺		
2319.5 ^a 10	8 ⁽⁻⁾		
2373.1& 8	9 ⁽⁻⁾		
2689.1 ^a 13	10 ⁽⁻⁾		
2787.5& 9	11 ⁽⁻⁾		
2833.5@ 8	14 ⁺		
3091.5 ^a 16	12 ⁽⁻⁾		
3252.5& 13	13 ⁽⁻⁾		
3423.8@ 9	16 ⁺		
3539.5 ^a 19	14 ⁽⁻⁾		
3763.8& 16	15 ⁽⁻⁾		
4030.4 ^a 21	16 ⁽⁻⁾		
4041.8@ 13	18 ⁺		
4321.2& 18	17 ⁽⁻⁾		
4690.4@ 16	20 ⁺		
5377.0@ 18	22 ⁺		
6106.6@ 20	24 ⁺		
6878.6@ 23	26 ⁺		

[†] From 1986Dr05.

[‡] Deduced by evaluator from a least-squares fit to γ -ray energies.

J^π assignments are based on γ -ray multipolarities and rotational structure (1986Dr05).

@ Band(A): K^π=0⁺ g.s. rotational band.

& Band(B): $\alpha=1$ side band.

^a Band(C): $\alpha=0$ side band.

$^{144}\text{Sm}(^{35}\text{Cl},\text{p}2\text{n}\gamma)$ **1990Ce05,1986Dr05** (continued) $\gamma(^{176}\text{Pt})$

ΔE : γ -ray energies are accurate within 0.3 keV for the strong transitions and 0.9 keV for the weak transitions (1990Ce05). ΔE for individual transitions were assigned by evaluator.

E_γ^\dagger	I_γ^\dagger	$E_i(\text{level})$	J_i^π	E_f	J_f^π	Mult.#	$\alpha^\@$	Comments
264.0 3	100	264.0	2 ⁺	0.0	0 ⁺	[E2]	0.147	
267.8 9	3.5 11	2004.4	6 ⁽⁻⁾	1736.4	4 ⁽⁻⁾			
300.1 3	98 6	564.1	4 ⁺	264.0	2 ⁺	E2	0.0984	Mult.: R(DCO)=0.94 3.
312.0 9	4.0 11	2010.9	7 ⁽⁻⁾	1699.4	5 ⁽⁻⁾	E2	0.0875	Mult.: R(DCO)=1.08 35.
315.0 9	6.4 13	2319.5	8 ⁽⁻⁾	2004.4	6 ⁽⁻⁾	E2	0.0850	Mult.: R(DCO)=0.88 29.
341.5 3	89 7	905.6	6 ⁺	564.1	4 ⁺	E2	0.0671	Mult.: R(DCO)=0.93 3.
362.8 9	8.5 14	2373.1	9 ⁽⁻⁾	2010.9	7 ⁽⁻⁾	E2	0.0565	Mult.: R(DCO)=0.86 17.
369.6 9	9.8 15	2689.1	10 ⁽⁻⁾	2319.5	8 ⁽⁻⁾	E2	0.0537	Mult.: R(DCO)=0.93 20.
400.1 3	85 7	1305.7	8 ⁺	905.6	6 ⁺	E2	0.0433	Mult.: R(DCO)=0.90 5.
402.4 9	7.6 15	3091.5	12 ⁽⁻⁾	2689.1	10 ⁽⁻⁾			
414.5 9	11 2	2787.5	11 ⁽⁻⁾	2373.1	9 ⁽⁻⁾			
448.0 9	11 4	3539.5	14 ⁽⁻⁾	3091.5	12 ⁽⁻⁾			
459.0 3	63 5	1764.8	10 ⁺	1305.7	8 ⁺	E2	0.0305	Mult.: R(DCO)=0.85 4.
465.0 9	13 2	3252.5	13 ⁽⁻⁾	2787.5	11 ⁽⁻⁾			
490.9 9	6.3 18	4030.4	16 ⁽⁻⁾	3539.5	14 ⁽⁻⁾			
509 1		2787.5	11 ⁽⁻⁾	2277.0	12 ⁺			
511.3 9		3763.8	15 ⁽⁻⁾	3252.5	13 ⁽⁻⁾			
512.1 3	53 5	2277.0	12 ⁺	1764.8	10 ⁺	E2	0.0236	Mult.: R(DCO)=0.94 6.
556.5 3	35 4	2833.5	14 ⁺	2277.0	12 ⁺	E2	0.0193	Mult.: R(DCO)=0.81 7.
557.4 9		4321.2	17 ⁽⁻⁾	3763.8	15 ⁽⁻⁾			
590.3 3	28 4	3423.8	16 ⁺	2833.5	14 ⁺	E2	0.0169	Mult.: R(DCO)=0.87 9.
607 1		2373.1	9 ⁽⁻⁾	1764.8	10 ⁺			
618.0 9	16 3	4041.8	18 ⁺	3423.8	16 ⁺	E2	0.0152	Mult.: R(DCO)=1.05 15.
648.6 9	8.6 26	4690.4	20 ⁺	4041.8	18 ⁺			
686.6 9	5.3 21	5377.0	22 ⁺	4690.4	20 ⁺			
705.7 9	3.8 14	2010.9	7 ⁽⁻⁾	1305.7	8 ⁺			R(DCO)=0.56 39.
729.6 9	2.1 5	6106.6	24 ⁺	5377.0	22 ⁺			
772 1		6878.6	26 ⁺	6106.6	24 ⁺			
794.5 9	1.8 6	1699.4	5 ⁽⁻⁾	905.6	6 ⁺			
1014 1	3.2 7	2319.5	8 ⁽⁻⁾	1305.7	8 ⁺			R(DCO)=0.86 29.
1024 1		2787.5	11 ⁽⁻⁾	1764.8	10 ⁺			
1068 1		2373.1	9 ⁽⁻⁾	1305.7	8 ⁺			
1099 1	4.0 8	2004.4	6 ⁽⁻⁾	905.6	6 ⁺			R(DCO)=1.07 35.
1105 1		2010.9	7 ⁽⁻⁾	905.6	6 ⁺			
1135 1		1699.4	5 ⁽⁻⁾	564.1	4 ⁺			
1172 1		1736.4	4 ⁽⁻⁾	564.1	4 ⁺			

[†] From 1990Ce05.

[‡] γ -ray energies are accurate within 0.3 keV for the strong transitions and 0.9 keV for the weak transitions (1990Ce05). ΔE for individual transitions were assigned by evaluator.

[#] From DCO ratios in 1990Ce05 and apparent band structure.

[@] Total theoretical internal conversion coefficients, calculated using the BrIcc code (2008Ki07) with Frozen orbital approximation based on γ -ray energies, assigned multiplicities, and mixing ratios, unless otherwise specified.

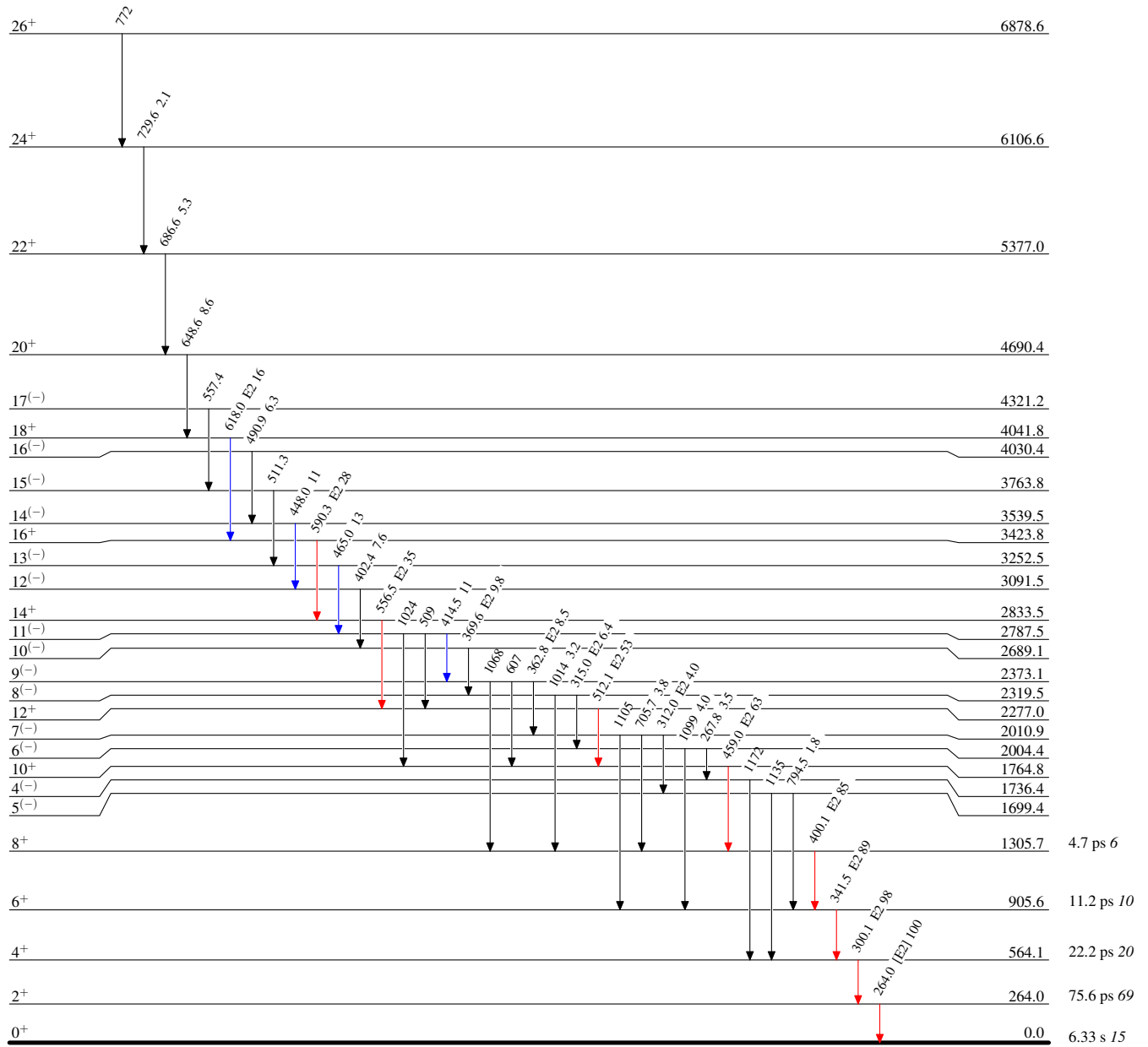
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Level Scheme

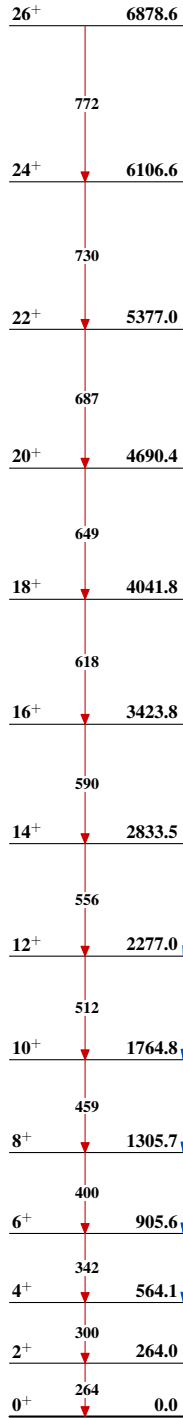
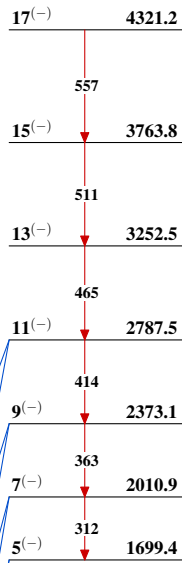
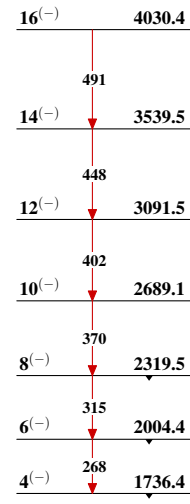
Intensities: Relative I_γ

Legend

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



$^{176}_{78}\text{Pt}_{98}$

$^{144}\text{Sm}(^{35}\text{Cl}, p2n\gamma)$ 1990Ce05,1986Dr05Band(A): $K^\pi=0^+$ g.s.
rotational bandBand(B): $\alpha=1$ side bandBand(C): $\alpha=0$ side band $^{176}_{78}\text{Pt}_{98}$