

²⁴⁴Cm(d,t) 1971Br27

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	C. D. Nesaraja, E. A. Mccutchan		NDS 121, 695 (2014)	30-Sep-2013

E(d)=12 MeV. Measured $\sigma(\theta)$ at $\theta=90^\circ$ and 140° using Browne-Buechner magnetic spectrograph and nuclear emulsions; DWBA calculations. Deduced $Q(d,t)=-530$ 7.

Spin and Nilsson state assignments were made by 1971Br27 from comparison of the cross sections taken at $\theta=140^\circ$ with those expected from theory. Cross sections taken at $\theta=90^\circ$ were used to check the L-values.

²⁴³Cm Levels

E(level)	J ^{π}	d σ /d Ω (μ b/sr) [†]	Comments
0.0	5/2 ⁺ ‡	65 11	
42 2	7/2 ⁺ ‡	4 2	
87 2	1/2 ⁺ #		
94 2	9/2 ⁺ ‡	550 35	E(level): assumed doublet consisting of the 9/2 ⁺ member of the 5/2[622] band and the 3/2 ⁺ member of the 1/2[631] band.
94 2	3/2 ⁺ #	550 35	E(level): assumed doublet consisting of the 9/2 ⁺ member of the 5/2[622] band and the 3/2 ⁺ member of the 1/2[631] band.
133 4	(7/2 ⁺)@	4 2	
153 2	(11/2 ⁺)‡	49 7	E(level): tentative assignment as 11/2 ⁺ member of 5/2[622] band.
164 2	(9/2 ⁺)@	44 7	
219 3	(13/2 ⁺)‡	8 3	E(level): tentative assignment as 13/2 ⁺ member of 5/2[622] band.
228 3	(11/2 ⁺)@	8 3	
260 2	9/2 ⁺ #	95 10	
530 3	(15/2 ⁻)&	18 6	
729 2	1/2 ⁻ ^a	376 14	
769 2	(3/2 ⁻) & (5/2 ⁻) ^a	174 17	E(level): assumed doublet consisting of the 3/2 ⁻ and 5/2 ⁻ members of the 1/2[501] band.
798 2	(5/2 ⁺) ^b	113 13	
842 2		19 7	
860? 4		4 3	
892 2	(9/2 ⁺) ^b	67 15	
904 3		17 6	
930 4		5 2	
973 2		58 7	
1015 3		25 8	
1023 2		108 25	
1046 4		22 6	
1136 2	(5/2 ⁻) ^c	143 15	
1217 3		16 8	
1222 4		16 8	
1359 3		20 5	
1367 4		21 6	

† Differential cross section in μ b/sr measured at 140° .

‡ 5/2[622] band member.

1/2[631] band member.

@ Possible 7/2[624] band member.

& Possible 7/2[743] band member.

^a 1/2[501] band member.

${}^{244}\text{Cm}(\text{d,t})$ **1971Br27** (continued) ${}^{243}\text{Cm}$ Levels (continued)

^b Possible 3/2[631] band member.

^c Possible 5/2[503] band member.