

$^{241}\text{Am(d,t)} \quad 1976\text{Gr19}$

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh, E. Browne		NDS 109, 2439 (2008)	31-Jul-2008

E=12.1 MeV, FWHM=8 keV. Measured $\sigma(\theta)$ at 60°, 90° and 120°. Q=-388 15. DWBA calculations.

 $^{240}\text{Am Levels}$

E(level) [†]	J $\pi^{\ddagger}$	d σ /d Ω $\mu\text{b/sr}^{\text{@}}$	E(level) [†]	J $\pi^{\ddagger}$	d σ /d Ω $\mu\text{b/sr}^{\text{@}}$
0 ^{&}	(3 ⁻)	165	845		8
41 ^{&}	(4 ⁻)	72	856		35
53 ^a	(2 ⁻)	125	877		55
87 ^a	(3 ⁻)	65	898		28
96 ^{&}	(5 ⁻)	30	917		30
130 ^a	(4 ⁻)	30	932		53
158 ^{&}	(6 ⁻)	19	956		26
186 ^a	(5 ⁻)	29	973 ^d	(3 ⁺)	211
213		4	997		38
233 ^{&}	(7 ⁻)	5	1016 ^{#e}	(2 ⁺)&(4 ⁺)	155
252 ^a	(6 ⁻)	20	1052 ^e	(3 ⁺)	27
281		6	1066		37
316 ^{&}	(8 ⁻)	3	1079		32
329 ^a	(7 ⁻)	6	1194		8
346 ^b	(1 ⁻)	6	1218		10
398 ^{#c}	(3 ⁻)&(5 ⁻)	22	1235		30
423 ^b	(2 ⁻)	9	1248		27
458 ^c	(6 ⁻)	13	1305		27
474		9	1318		9
498 ^{#b}	(4 ⁻)&(5 ⁻)	20	1335		16
534 ^c	(7 ⁻)	10	1349		11
551		7	1372		33
616 ^{#c}	(6 ⁻)&(8 ⁻)	6	1386		30
640 ^b	(7 ⁻)	4	1407		15
660		7	1437		20
757		93	1495		14
777		59	1515		44
809		24	1545		13
819		34			

[†] Uncertainty is not given by 1976Gr19. From spectrum shown by the authors In figure 1, it is estimated As <5 keV for well-resolved peaks.

[‡] Based on observed and theoretical cross section patterns for the bands (fingerprint method); rotational parameter A in the range 5-7; sequence of Nilsson orbitals in neighboring odd mass isotopes; Gallagher-Moszkowski coupling rule; and summed cross sections for two bands belonging to the same Nilsson neutron orbital should be equal. These rules are obeyed best for the $\pi 5/2[523]\nu 1/2[631]$ bands. The assignments are the same in 'Adopted Levels'.

[#] Doublet.

[@] At 120°. Cross sections are also listed by 1976Gr19 at 60° and 90°.

[&] Band(A): $K^\pi=3^-$, $\pi 5/2[523]+\nu 1/2[631]$. $\alpha=5.3$.

^a Band(B): $K^\pi=2^-$, $\pi 5/2[523]-\nu 1/2[631]$. $\alpha=5.5$.

^b Band(C): $K^\pi=0^-$, $\pi 5/2[523]-\nu 5/2[622]$. $\alpha=5.4$.

^c Band(D): $K^\pi=5^-$, $\pi 5/2[523]+\nu 5/2[622]$. $\alpha=5.2$.

Continued on next page (footnotes at end of table)

$^{241}\text{Am}(\text{d,t})$ **1976Gr19 (continued)**

^{240}Am Levels (continued)

- ^d Band(E): $K^\pi=3^+, \pi 5/2[523]+\nu 1/2[501]. \alpha=5.4.$
^e Band(F): $K^\pi=2^+, \pi 5/2[523]-\nu 1/2[501]. \alpha=6.0.$

Band(A): $K^\pi=3^-$, $\pi 5/2[523]+\nu 1/2[631]$	Band(B): $K^\pi=2^-$, $\pi 5/2[523]-\nu 1/2[631]$
<u>(8⁻) 316</u>	<u>(7⁻) 329</u>
	<u>(6⁻) 252</u>
<u>(7⁻) 233</u>	<u>(5⁻) 186</u>
<u>(6⁻) 158</u>	<u>(4⁻) 130</u>
<u>(5⁻) 96</u>	<u>(3⁻) 87</u>
<u>(4⁻) 41</u>	<u>(2⁻) 53</u>
(3⁻) 0	