^{232}Th(t,α) 1977Th04

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	Balraj Singh, Jagdish K. Tuli, and Edgardo Browne	NDS 185, 560 (2022)	31-Aug-2022

1977Th04: E(t)=15 MeV. Measured $\sigma(\theta)$ at θ=50°, 60°, 70° using Q3D spectrograph at the Los Alamos tandem accelerator. FWHM=15-19 keV. DWBA analysis of $\sigma(\theta)$ data.

^{231}Ac Levels

Band assignments are from 1977Th04, from comparison of experimental and theoretical cross sections, and in analogy with bands observed by authors in ^{229}Ac, ^{233}Pa, ^{235}Pa and ^{237}Pa nuclei in the same experiment.

E(level)	Jπ†	dσ/dΩ μb/sr#	Comments
0@	1/2+	258	
38‡& *4*	(3/2−)	122	dσ/dΩ for 38-keV doublet.
38‡@ *4*	3/2+		For dσ/dΩ, see 38, 3/2− level. E(level): value in the Adopted Levels is 37.96 *6*.
76a *5*	9/2+	36	
94& *3*	7/2−	146	
135a *3*	13/2+	76	
235b *4*	3/2+	183	
257b *10*	5/2+	28	
305 *4*		30	
350 *4*		28	
420 *6*		11	
469 *8*		17	
647 *10*		15	
671 *4*	(11/2−)	88	11/2− member of configuration=π9/2[514].
797 *4*	(5/2−)	46	5/2− member of configuration=π1/2[541].
1021 *7*		13	
1100 *6*		51	
1126 *6*		95	
1288 *5*		35	

† From comparison of cross sections with DWBA with Coriolis coupled Nilsson-model calculations (finger-print method).
‡ Unresolved doublet.
# At 60°. 1977Th04 state that systematic uncertainties in cross sections are larger than 40%.
@ Band(A): π1/2[400].
& Band(B): π1/2[530].
a Band(C): π3/2[651].
b Band(D): π3/2[402].

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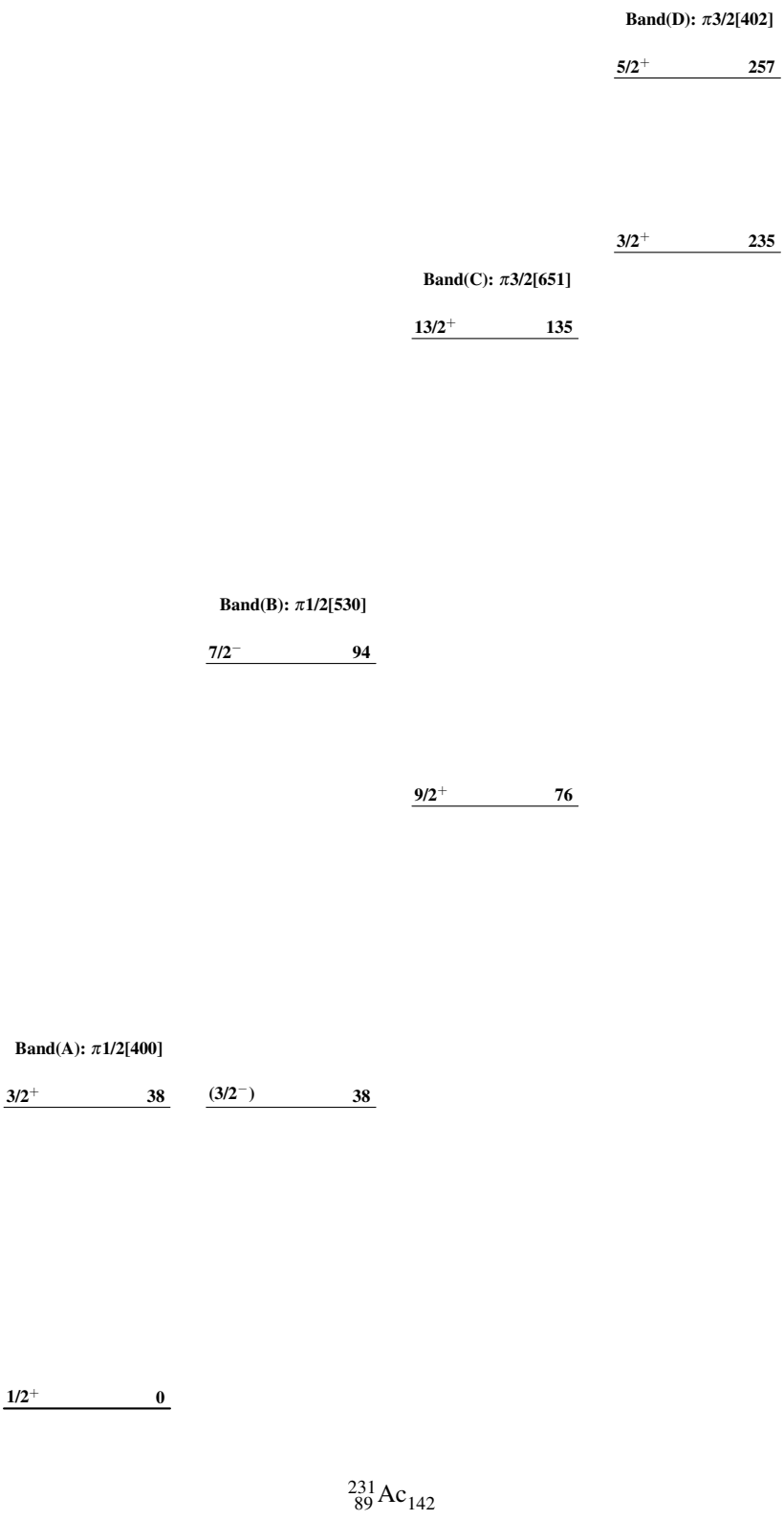

$^{231}_{89}Ac_{142}$