^{243}Am(d,p) 1976Gr19

Type	Author	History Citation	Literature Cutoff Date
Full Evaluation	C. D. Nesaraja	NDS 146, 387 (2017)	31-Aug-2017

1976Gr19: Deuterons with E= 12.1 MeV from Niels Bohr Institute tandem accelerator were incident on a ≈ 15μg/cm^2 thick ^{243}Am target with a carbon backing. The scattered particles were detected using a magnetic spectrograph at θ= 60°, 90° and, 120° and recorded in nuclear emulsions. Cross sections were measured and compared to the DWBA theoretical calculations using the DWUCK code.

^{244}Am Levels

E(level)[†]	J$^\pi$[‡]	Comments
(0)		E(level): Ground state was not resolved at 120 °, due to contamination, and an upper limit for cross section was measured at 90°.
80		
211		
241		
274?		E(level): Not resolved at 90° due to contamination.
324		
351	(3$^-$)[#]	
370[a]	(2$^-$)[#]	
370[a]	(5$^-$)[@]	
436	(6$^-$)[@]	
452[a]	(4$^-$)[#]	
452[a]	(5$^-$)[#]	
513	(7$^-$)[@]	
572		
623		
754		
791	(2$^-$)[&]	
812	(3$^-$)[&]	
838		
865		
890		
902		
921		
941		
961		
987		
1017		
1045		
1074		
1102		
1130		
1147		
1162		
1184		
1208		
1257		
1286		
1340		
1362		

[†] The original excitation energies given by the author in 1976Gr19 were determined using Q(d,p)=3138 keV *30*. The evaluator has

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^{243}Am(d,p) 1976Gr19 (continued)

^{244}Am Levels (continued)

increased the excitation energy by 4.6 keV taking into account the current Q(d,p)= 3142.6 keV *16* with mass values taken from 2017Wa10. Values given here have been rounded off to the nearest keV. Overall resolution for the proton spectra was 15 keV (1976Gr19).

‡ Tentative assignments made by 1976Gr19. They were based on energy systematics of Nilsson orbitals in the neighboring odd A isotopes, comparison of observed and theoretical cross-section patterns, the Gallagher-Moszkowski coupling rule, rotational parameter A limited in the range 5-7 keV, and summed cross sections for two bands belonging to the same Nilsson neutron orbital should be equal.

$K^{\pi}= 0^{-}$,(π 5/2[523]-ν 5/2[622]) band.

@ $K^{\pi}= 5^{-}$,(π 5/2[523]+ν 5/2[622]) band.

& $K^{\pi}= 2^{-}$,(π 5/2[523]-ν 1/2[620]) band. Band is probably distorted by the Coriolis interaction.

a Assigned as a doublet.