^{242}Pu(d,d′)   1972El08

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	M. J. Martin, C. D. Nesaraja	NDS 186, 261 (2022)	31-Dec-2021

E(d)=16 MeV; θ=90° and 125°; FWHM=8 keV.

^{242}Pu Levels

B(E2) and B(E3) values were extracted by the authors from the measured cross sections, and normalized with Coulomb excitation values for ^{238}U.

Hexadecapole deformation was deduced by the authors from (d,d′) strength for the 4$^+$ level to be 0.2-0.6 of quadrupole deformation.

E(level)	J$^{\pi}$[†]	Comments
0	0$^+$[‡]	
46	2$^+$[‡]	B(E2)=16.5 *14*.
148	4$^+$[‡]	
308	6$^+$[‡]	
519	8$^+$[‡]	
781	1$^-$[#]	
833	3$^-$[#]	B(E3)=0.71 *9*.
865		
927	5$^-$[#]	
≈992		
1020	3$^-$	B(E3)=0.74 *11*.
1102	(2$^+$)[@]	B(E2)=0.15 *3*.
1122	(5$^-$)	
1204		
1259		
1501		
1613		
1638		
1650	(3$^-$)	B(E3)=0.38 *6*.
1683		
1701		
1776		
1825		

[†] Assignments from 1972El08 based on intensity patterns, ratios of cross sections at θ=90° and 125° for low=lying states, and on comparison with deuteron spectra of ^{238}U.

[‡] K=0$^+$ g.s. band.

[#] K=0$^-$ octupole vibrational band.

[@] K=2$^+$ γ-vibrational band.