^{148}Sm(^{3}He,α)   1977Se04,1976BjZY

History

Type	Author	Citation	Literature Cutoff Date
Full Evaluation	N. Nica and B. Singh	NDS 181, 1 (2022)	9-Mar-2022

E=24 MeV (1976BjZY); also studied ^{148}Sm(d,t) E=17 MeV.

E=82 MeV (1977Se04) ΔE-E counter; resolution: 60-120 keV.

^{147}Sm Levels

Strengths of $h_{9/2}$, $i_{13/2}$, and $h_{11/2}$ excitations are compared with isotones and N=83,87,89 nuclei by 1976BjZY. Strength distributions of $h_{11/2}$ components in odd-mass Sm and Nd are compared with the Nilsson model (β=0.2) by 1977Se04.

E(level)[#]	J$^\pi$[†]
0.0	7/2$^-$[‡]
809	9/2$^-$[‡]
1031	13/2$^+$[‡]
1540	13/2$^-$[‡]
1982	(11/2$^-$)
2114	(9/2$^-$)
2720	
2940	
3310	
4400	

[†] From cross-section ratios (^{3}He,α)/(d,t), L=5 and L=6 were assigned to excitations ≤2.1 MeV (1975BjZY,1976BjZY).

[‡] From Adopted Levels.

[#] Energies below 2720, except for the 1540, are from 1976BjZY. Values above 2700, and the 1540 level, are from 1977Se04. 1977Se04 suggest that single-particle strength of the $h_{11/2}$ neutron-hole state is split into 6 Nilsson orbitals. Excitations at 1982 and 2114 are identified as 11/2[505] and 9/2[514], respectively.