

$^{144}\text{Sm}(\alpha, ^3\text{He})$ 2008Ka01

Type	Author	History	Citation	Literature Cutoff Date
Full Evaluation	E. Browne, J. K. Tuli		NDS 110, 507 (2009)	1-Oct-2008

E=51 MeV, measured angular distributions at $\theta=6, 11, 20^\circ$, Resolution (FWHM)=70 keV, DWBA analysis. Enge magnetic split-pole spectrometer.

Absolute cross sections have typical uncertainty of $\approx 7\%$ while relative values are accurate to 5%.

This work focuses on measurement of $i_{13/2}$ and $h_{9/2}$ single- neutron strengths for N=83 nuclides. From cross section data, matrix elements were also deduced for $f_{7/2} \otimes 2^+$ (vib.) and $f_{7/2} \otimes 3^-$ (vib.) configuration mixings.

1981Re10: 40 MeV. Measured: $\sigma(E, \theta)$, DWBA analysis.

 ^{145}Sm Levels

$\Sigma[C^2S]$: 1.18 17 for $h_{9/2}$, 0.96 14 for $i_{13/2}$, with Centroid energy (keV): 1526 10 for $h_{9/2}$, 1594 29 for $i_{13/2}$ (2008Ka01).

E(level) [‡]	J π [@]	L	C ² S. ^{†&}
0.0	7/2 ⁻	3	
889 [#] 7	3/2 ⁻		
1103 5	13/2 ⁺	6	0.66
1427 5	9/2 ⁻	5	0.84
1790 30	9/2 ⁻	5	0.34
2014 [#]			
2713 30	(13/2) ⁺	6	0.30

[†] In $\mu\text{b/sr}$.

[‡] From 1981Re10.

[#] Not reported by 2008Ka01.

[@] From Adopted Levels.

[&] Typical uncertainties are 10% based on relative cross sections and analysis using a variety of optical parameters listed by 2008Ka01.